







# Harvard Medical

A L U M N I   B U L L E T I N

S U M M E R   1 9 9 6

## Considering the Alternatives



# THE TRAGEDY ISN'T THAT SHE HAS CANCER. IT'S THAT WHEN THIS PICTURE WAS TAKEN SHE WAS MISSING HER TREATMENT.



© Larry Lawler

It's sad, but true. You see, even though medical science has given more cancer patients more hope than ever before, one of the most critical challenges facing these people is simply getting to their treatments.

But you can help. And we hope you will.

Through the American Cancer Society's Road To Recovery program, you can volunteer to drive a cancer patient to and from treatment. And, in turn, help them enjoy a fuller, longer life.

To find out more, call your American Cancer Society at **1-800-ACS-2345**.

Because the only thing sadder than this picture is that we have more of them.





# Harvard Medical

## A L U M N I B U L L E T I N



Cover photo by Stuart Darsch  
Rug courtesy of  
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By some estimates, Americans spend as much on “alternative” medicine as the billions of dollars they spend annually on hospital care provided in the mainstream. Many are quietly supporting both the establishment and the fringes. What are they pursuing with their money? I would speculate that a relatively small fraction is spent by the terminally ill in the pursuit of desperate cures when all else has failed and that a much larger amount goes to seek relief of everyday suffering.

Regular medicine has on the whole adopted a selective approach to the problem of pain. We treat what we can and assign the rest, with some exceptions, to a category of discomfort that is more or less unreal. There’s a solid tradition for this. One of the pragmatic Egyptian papyri recommends that physicians first decide whether or not a chief complaint is in the realm of things they can contend with and then explicitly state whether they intend to proceed with treatment.

This is not unreasonable, even now. It clarifies the doctor’s role, grounds medicine in empirical science, and provides a semisolid basis for third-party reimbursement. In the event, however, it has left open an enormous market for the “alternative.”

Alumni and faculty of HMS (which as an institution adheres to high-church scientific medicine) are remarkably prominent in the alternative chapels (and they are prolific authors on the subject). This issue offers a sampling of commentary and observations from Harvard physicians engaged one way or another with “alternative” practice.

We also carry an engaging article by Halcuit Moore ’35 on one of the most accepted of medical practices, appendectomy. Moore reminds us how uncertain is the parentage of even our most legitimate treatments.

With this issue, we welcome Janet Walzer as associate editor of HMAB. She comes to us from Beth Israel Hospital where she was managing editor of the *Journal of the American Medical Association’s* “Clinical Crossroads” series.

*William Ira Bennett ’68*

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# Letters

## Cyberhype

Even though I'm one of your "old/old readers," I can claim the possession and operation of a computer. This makes it especially easy for me to understand the limitations of computers as a "way of doctoring."

The articles about medical teaching and care as mediated through a computer, appearing at length in your Spring 1996 issue, raise some possibilities. Unfortunately, they completely neglect the disadvantages of shifting from human contact to electronic networks, in medical care and teaching.

Only in Jerry Kassirer's article is any mention made of physical/personal contact with the patient, and he only refers to the "laying on of hands." While this image calls to mind the allegedly therapeutic value of the personal touch, it is the matter of the physical examination that is completely neglected in these articles.

Without a careful physical examination, medical care is impossible. Glossing over the physical examination (as for example, avoiding examination with an ophthalmoscope, a pelvic or a rectal examination) has been the basis of repeated disasters of medical care in the last 20 or 30 years.

Most especially, a consultation requires personal contact with the patient. The consultant comes to the patient with a recent wound that is not doing quite well, and with his fingers can feel the telltale tiny bubbles of gas gangrene. A life is saved by a touch of the hand. The physician requesting the consultation would never have mentioned these in his computer request because he did not feel the bubbles himself! Daily personal contact and examination is essential in all patient care.

There are reliable stories of "computer medicine" at an airport (not in this city) that missed a ruptured spleen and a fractured ankle.

According to one of the *Bulletin* articles, patients seemed to enjoy being interviewed by the computer. Therein lies a severe problem, as any psychologist, psychiatrist, physician, or even surgeon can tell you. If questions are asked that seem somehow to probe into difficult areas of the patient's background, and might even be a little unpleasant, those are the most important questions to follow up, and their answers may hold the key. The matter must be pursued with tact and, yes, humanity. No machine can sense the "tough question" and the patient can just skip it.

HMS, in looking at this "cyberhype" world should realize that our emphasis should be on the importance of "reality" and of "real people giving real care." If we indulge in rhetoric about computers, it should be to indicate their shortcomings, their failings. We should show how those specific failings can be minimized by personal real-time friendly human interest, concern and presence. Only those who have dealt with the sick themselves, or with students, should write about the glories of cyberspace for the computer.

Once upon a time a student asked, "How do you define space?" The teacher answered, "a cubic volume in which there is almost nothing." That is a very good definition of cyberspace.

*Francis D. Moore '39*

## The Human Interface

What fun it was to read the Spring sci-fi edition of the *Bulletin* and to share the glimpses of the future from all those Jules Verne, MDs. There is no question that the computer did usher in a new player in our lives. But we must not let the technical imperative beguile us.

I acquired an Apple II in 1980 quite a few years after I had attended a Harvard Alumni College introductory

course in computing. At that time Professor Bossert concluded his week of lectures and hands-on experience with the remark that he "did not know how we would put to use what we had learned but that we would sooner or later."

I was probably the first solo practitioner in Boston's Metro West to install a PC in his office. I made an unorthodox use of a database program (DBMaster by Barney Stone) to do my billing, which allowed me to downsize my staff by one person. I subscribed to Saunders "Colleague After Dark" and surfed Medline in the off hours looking up cancer protocols or references for medical articles that I had written. I used a word processor program to write a biography (only to find the publisher still hired a typist to key in all the text since he was not capable of dealing with my disks). Yet, in retrospect, I was doing nothing more than what my secretaries and the hospital librarians had been doing for me in the previous decade of clinical research and publishing.

But what was more significant was my relationship with my patients or referring physicians. In spite of the fact that my desk could be heaped with all the latest computer searches about the treatment of a disease, people came to me seeking my advice as what was best to do. They did not care how many protocols or clinical reports I was able to print out from all over the world. They trusted me to make the discriminating choices about what was good or what was marginal in medical progress; and they trusted I would do my best in using those decisions to render their care.

The practicing clinician will still be the keeper of that weir in the stream of information, trapping just enough to be effective. The human interface between patient and doctor will never

(and has not been since the days of the temions of Aesculapius) be changed by all the pie-in-the-sky technology we can dream up. This humanism should still be given its due respect and priority.

*C. Newton Peabody '48*

## The Final Push

Thank you, thank you. Your spring issue devoted to the coming brave new world of compu-medicine was the final and decisive push this clinical practitioner, 44 years out of HMS, needed to slip gratefully into retirement. Only four years ago the theme of the Class Day program at our 40th reunion was the doctor/patient relationship. This will soon be dismembered in the on-line future hastened by cost-driven HMOs which continue to synergistically depersonalize medical care.

Yet Jerome Kassirer admonishes us to be "at the forefront of these changes, not dragged along by progress." Progress! I knew it was quitting time when even Editor Kassirer was unable or unwilling to distinguish between change and progress.

*James S. Bernstein '52*

## With a Click of the Mouse

As a practicing psychiatrist, William Ira Bennett ("Solitaire Confinement," Spring 1996) is aware that addicts can often offer sustenance and support to each other. Unfortunately, I can only offer compassion. An addict should not trifle with the facts, however. He will certainly be exposed! FreeCell and Mac? Such a figment of the imagination! Such disloyalty to the evil bard of Microsoft Manor!

Alas poor sir, the mighty ace will not save you. More is revealed with a right click of the mouse. Luck does not reign! Failure is but thine!

*Charles G. Mixter III '65*

*Bennett replies:*

*Confession is good for the soul but bad for the reputation. Dr. Mixter is correct on two counts. I play FreeCell on a PC with Windows 3.1. Our designers, however, use Macs to produce art for the magazine. And pressing the right button of the mouse does expose the aces. (Having learned the trick from Dr. Mixter, I find that it makes virtually no difference to my game). Meanwhile Nora Nercessian (executive director of alumni relations) has almost convinced me that I really could win all the games if I would only persevere.*

## Diversity Reconfirmed

In a letter printed in the last issue of the *Bulletin*, William Campbell writes that he perceives Harvard to be filled with those "jabbering in foreign tongues" and to have been subjected to a "takeover of the school by affirmative action women students." Campbell calls for HMS to change its admissions policy to "reverse this trend."

This view is perfect justification for why HMS must continue to place great importance on creating a diverse student body. We must keep working to build a community where people of different backgrounds feel comfortable with each other and do not look upon each other with suspicion and feelings of alienation. This can only be accomplished if we share our experiences and work for common goals with those who do not have the same background as ourselves.

As doctors, we will be helping an American society made up of people who have origins and experiences very different from our own. It is our responsibility to treat everyone with equal compassion and to look upon each person as an individual of worth. Our ability to accomplish this begins with our ability to regard peers of different background with respect and understanding.

I was saddened to read that Campbell does not feel welcome in Vanderbilt Hall because of the large number of individuals there who were different from him. Perhaps he would benefit from spending time with our diverse and friendly medical school class.

*Maureen A. Su '99*



I am writing in response to a letter in the Spring 1996 issue of the *Bulletin* by William Neil Campbell Jr. '38. Campbell wrote that walking into Vanderbilt Hall was like "walking into some East Asian school—no responses to my greetings and much jabbering in foreign tongues." As a native born American, I have found that the ability to speak a foreign language has been extremely useful in communicating with patients who do not speak English, and it is unfortunate that Campbell views the speaking of foreign languages as "jabbering," rather than as a useful communication skill.

Campbell also states: "the takeover of the school by affirmative action women students I cannot stand...it is high time for a reversal of this trend." I have spoken to faculty and student members of the admissions committee and have learned that women are not admitted by affirmative action. In fact, the dean of admissions, Gerald Foster, has stated in *US News* and *World Report* that women tend to interview better than men, and this may account, in part, for their success at gaining admission. Those who interview well tend to have excellent communication skills, a trait that all good doctors must have.

I believe that Campbell's opinions stem from his lack of familiarity with the realities of medical student life today. He should visit the medical school again and get to know the students better. I am sure he would discover that we are carrying on the fine tradition of outstanding medical training, and at the same time, bringing perspectives and talents to the medical profession that may not have been present at HMS in the 1930s.

What disturbs me most about this letter is that there is likely to be a significant number of doctors who hold opinions similar to Campbell's. In fact,

I have encountered such sentiments in my interactions with doctors as a student. Hence, I would like to urge strongly that efforts be increased to educate faculty and students at HMS about issues concerning diversity.

*Anne Su '99*

#### **Setting the Record Straight**

Dr. William Campbell's ('38) criticism of the admissions policy of HMS was a bit harsh. We are indeed committed to the enrollment of a diverse body of talented students who will reflect the character of the American people whose health needs we all must serve. Having said that, alumni should know that our procedures are gender blind and merit rules. The students that we select have stunning records of academic achievement coupled with impressive human qualities and societal concerns. Indeed, there is diversity of gender, ethnicity and background.

A high percentage of our matriculants have already demonstrated outstanding scientific promise. Others have records of distinguished community service. There are increasing numbers of somewhat older, non-traditional students who bring with them life experiences and a level of maturity that add leavening to a class.

Our students truly enrich us by their presence. I recently received a letter from one of our senior faculty who has been teaching for many years. He wrote to congratulate the Admissions Committee on having selected a wonderful class. He wrote, "What is impressive is their enthusiasm about the learning process, and the healthy perspective they seem to have on medical school and how it fits into life. Congratulations!"

There wasn't much diversity when Dr. Campbell attended HMS—nor was there when I did. I loved my years at HMS and I am proud of the

accomplishments of my classmates. Nevertheless I can't help but speculate on how my own education might have been enhanced had I been exposed to the same diversity that our students are. If Dr. Campbell were a member of our Admissions Committee and had the opportunity to meet many of these outstanding young men and women, he would be as proud as I am of our students and would be as confident as I am about their future careers as physicians and alums of HMS. They deserve more, not less, of our support.

*Gerald S. Foster '51*

*Faculty Associate Dean for Admissions*

I am a member of the Class of '99 and an American-born white male. My class is over half women—and many of my classmates have ethnic backgrounds. I wouldn't have it any other way. All people, and especially doctors, need to stop looking at skin and treat people as individuals.

Our country is, thankfully, half women. In America there are Latinos, African Americans, Native Americans, Europeans, Indians, Russians, Arabs, and Asians, to name but a few. This ought to be reflected in our medical school class. The fact that affirmative action is needed to ensure this is only testimony to the oppressive behavior of whites in this country's history.

History cannot be changed, but it can be accepted honestly. White Europeans were and still are guests in this land who took advantage of their hosts' hospitality. Above all, we must respect each other for our differences and not just our similarities.

*Dimitri Cassimatis '99*

## Dean Tosteson to Step Down Next Year

Daniel C. Tosteson '49 will spend his last year as dean of Harvard Medical School completing projects that will culminate 20 years of leadership that have overseen a dramatic change in the way medicine is taught. He will pass the torch next June 1997 as Robert Ebert did to him in 1977, as George Packer Berry did to him in 1965, and on back to the first dean of Harvard Medical School.

"Dean Tosteson has served the Harvard Medical School, and the larger university community, with the greatest possible distinction and dedication," said Neil Rudenstine, president of Harvard University, after Dean Tosteson announced his intention to retire at a specially held Faculty Council meeting in May. "He has affirmed the highest standards of quality in both medical education and research, not only for Harvard, but for

the nation as a whole."

Rudenstine cited the New Pathway program Tosteson "ushered in" as a pioneering effort in the education of physicians, and particularly highlighted his efforts to reinforce the connections between basic science and clinical research, and to recruit an extraordinary faculty and create an environment in which their talents could thrive. "He has worked vigorously in a time of constrained resources to keep the medical school on a sound financial footing and to revitalize the school's physical facilities."

Tosteson, who graduated from Harvard College in 1944 and HMS in 1949, began his academic career in 1958 as associate professor of physiology at Washington University School of Medicine. Four years later he was chairman of physiology at Duke, and in 1975 was appointed dean of the

Pritzker School of Medicine at the University of Chicago, where he served for two years before responding to the call to return to Harvard.

The Association of American Medical Colleges, in bestowing upon Tosteson its highest honor, the Abraham Flexner Award, in 1991 cited his development of "innovative curriculum, creating a vibrant and dynamic environment in the classroom, the laboratory, the hospital and the clinic." The award also credited him for establishing a division of medical ethics and a department of social medicine, and for encouraging extracurricular activities that "reflect social concerns and that give service beyond the traditional clinical boundaries."

Other laudatory remarks were made when Tosteson received an honorary Doctor of Human Letters degree in 1993 from Johns Hopkins

President Rudenstine and the HMS Faculty Council applaud Dean Tosteson as he announces his intentions.



photo by Steve Dunwell



School of Medicine Dean Michael Johns: "You are known among deans of American medical schools as the leader of medical education...you have transformed medical education in the United States. You brought about this revolution by putting education first at Harvard, at a time when training young doctors often was a lower priority than promoting research or cutting costs for patient care. Your enthusiasm inspired your faculty to rededicate themselves for physician training, and your example stimulated other medical schools to examine their objectives and their training process."

Under Tosteson's leadership, research also grew at HMS. Federal research grants to the Quadrangle-based faculty alone increased from \$38 million to \$85 million annually. The number of doctoral students in the core science departments has increased from 150 to nearly 500 the past 19 years. And the school's endowment has grown from \$138 million to more than \$840 million.

But, as Rudenstine said following Tosteson's announcement, "there will be many opportunities in the coming year to celebrate Dan Tosteson's extraordinary tenure as dean." In the meantime, a nationwide search for a successor is under way. By next June, Tosteson says he will be ready to pass the torch to the next dean, "in a sequence that has endured for 214 years, and I hope will never end."

To: Harvard Medical School Community

As announced earlier this month, Daniel Tosteson intends to step down as Dean of the Faculty of Medicine at the end of the 1996-97 academic year, having completed 20 years of distinguished service as Dean. All of us at Harvard, and in the medical community beyond Harvard, are deeply indebted to Dean Tosteson for his remarkable contributions to the advancement of medicine—which will continue vigorously through the final year of his deanship and beyond. It will be a considerable challenge to identify a worthy successor.

In beginning the search for a new Dean, I am forming a faculty advisory group to assist me, as I have done in the case of comparable searches. The members of the group—15 faculty drawn from both the Quadrangle-based departments and a number of the Harvard-affiliated institutions—will consult with me closely throughout the process. Meanwhile, I am eager to have advice from the broadest possible range of faculty, students, staff, alumni, and others in the Harvard medical community, and from the larger medical education and research community as well.

I invite you to write me—in confidence—with your views concerning this important transition. I would greatly appreciate your thoughts on the directions in which Harvard medical education and research should move in the years ahead; the most important qualities that you believe are essential in a new Dean; and any suggestions that you might have regarding possible candidates. Letters, marked confidential, should be addressed to me, care of Marc Goodheart, Special Assistant to the President, Massachusetts Hall, Harvard University, Cambridge, Massachusetts 02138.

Many thanks for your help, and all best wishes.

Neil L. Rudenstine  
May 31, 1996

## Lead Linked to Hypertension and Kidney Dysfunction

Exposure to lead may be a cause of hypertension and kidney problems in adults, according to two studies published in the April 17 issue of the *Journal of the American Medical Association* by Harvard researchers.

From 1991 to 1994, researchers at Channing Laboratory compared blood pressure measurements with lead levels in the kneecaps and tibias of 590 men aged 48 to 90. Hypertension was associated with higher levels of lead found in the bone. Howard Hu, lead author of the hypertension study, believes that lead may be one explanation for the increases in blood pressure that accompany aging, and notes that information on long-term lead exposure can be best obtained by measuring levels in bone. Hu is associate professor of occupational medicine at the Harvard School of Public Health and HMS assistant professor of medicine.

The implications of these findings may lead to new drug therapy for hypertension, Hu says. "If lead is shown to be a major cause of hypertension in some people, there may be a way to neutralize it in the body. Instead of taking drugs all their lives, perhaps such people could have lead in their bones neutralized once and for all."

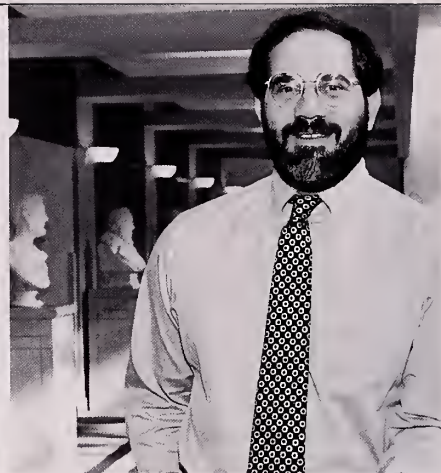
For the study on kidney function, the same research team led by Rokho Kim, HMS instructor, measured lead levels in the bone and blood of 459 men over a 15-year period, although only the blood samples have been studied at this point. Men who had the highest levels of lead in their blood had more kidney damage with aging than those with lower levels. Creatinine measurements were taken to assess kidney function, and as Hu notes, "Inability to excrete creatinine increases with age in both men and women. Other factors, such as

diabetes, add to this loss of function. On top of that, lead can apparently make things even worse."

Although the campaign to reduce lead in gasoline, canned foods and the like that began in the 1970s has been successful, the authors of both studies believe their results indicate a need for more reductions. "Allowable levels of lead exposure are four times greater for adults than for children," Hu says. "Our research indicates such standards may allow for a buildup to levels that cause an increased risk of disease and death. Therefore, we recommend that exposure levels for the general population be revised downward."

Both studies were conducted as part of a long-term research project on aging which began in 1961 by the Department of Veterans Affairs.

photo by Barbara Steiner



## Hyman Accepts Post at NIMH

Steven E. Hyman '80, former director of the Harvard University Interfaculty Initiative on Mind/Brain/Behavior and associate professor of psychiatry at HMS, began his tenure as director of the National Institute of Mental Health on April 15. Hyman, a leading researcher on the biological origins of mental disorders, was also director of research in the Department of Psychiatry at Massachusetts General Hospital. He had been at Harvard for 20 years.

Harold Varmus, director of National Institutes of Health, said about Hyman's appointment: "Dr. Hyman's basic research accomplishments coupled with his clinical expertise provide a superb combination for guiding development of innovative approaches to improve care."

At NIMH, Hyman directs a staff of close to 900 with a budget of over \$600 million. Upon the announcement of his appointment, Hyman stated, "I am proud to be joining an institute dedicated to translating scientific advances into new hope for the one in every five Americans who suffer from mental illnesses."



### Braunwald Named to New Post

Eugene Braunwald, Hersey Professor of the Theory and Practice of Medicine, will take on a new role as HMS faculty dean for academic programs for Partners HealthCare System, the corporation formed when Brigham and Women's Hospital and Massachusetts General Hospital merged. He will also serve as vice president for academic programs at Partners.

"This new dual appointment goes a long way toward sustaining and strengthening academic programs of the Partners system and will foster important collaboration," says Dean Daniel Tosteson '49. "No one is more qualified than Eugene Braunwald to hold this post, as he is finishing a spectacular tenure as chair of medicine at Brigham and Women's Hospital." Braunwald continues as chairman of medicine until September when Victor Dzau, current chairman of medicine at Stanford Medical Center, takes over.

In his new roles, Braunwald will develop the guiding research strategy for Partners and work with department heads to promote the educational and research activities of HMS faculty at the Brigham and MGH. He will also be encouraging cooperative research programs among BWH-MGH faculty and other HMS investigators, particularly those who are Quadrangle-based.

"The most precious asset by far of the Partners research effort is the creativity, dedication and entrepreneurial spirit of its scientists," notes Braunwald. "We must now optimize this asset by actively encouraging the development of joint research and training efforts."

### Student Debt Concerns

Alumni, faculty, administrators and particularly the students of Harvard Medical School have been increasingly concerned about the magnitude of debt with which students are graduating. One step in the right direction was made in April when the Faculty Council approved a plan to reduce the size of the unit loan—the amount a student must borrow before being eligible for grant funding—from \$25,000 to \$20,000. The plan, since approved by the Harvard Corporation, will be in effect until the end of the academic year in 2000, and will allow time for the school to develop a more permanent solution.

More and more students are graduating with debts of greater than \$150,000 and are actively trying to heighten awareness of their plight. Second-year students Peter Glickman and Torunn Yock organized a forum on student debt on April 11 and invited deans Daniel Tosteson '49 and Daniel Federman '53. They dedicated it to the memory of Clifford Barger '43A, who had been keenly interested in this problem.

Eighty students submitted personal statements, which were presented to Tosteson and Federman, and 24 of them got up to speak. Ann Bryant '99 said that when choosing among medical schools, she was advised to select the best school and not to worry about the expense. "I followed this advice and came to Harvard, knowing that I was taking on a burden of great debt," said Bryant. "Drawn by the Harvard name and reputation, I gave up scholarship offers from other top schools." She said it was a privilege to study medicine at Harvard, "but I have paid for this privilege with a debt plus interest of greater than \$150,000 and true concern for my future."

Eugene Braunwald



Many students expressed concern that their career options may be dictated by salary considerations. "The myth that going to Harvard would open the doors of opportunity may have been true 20 years ago and maybe even 5 years ago, but today it is just a myth," said Mayer Ezer '99, who anticipates a debt burden of more than \$100,000. "While it is true that Harvard puts forth both great clinicians and great researchers, I can only strive to be a great clinician because I can't afford to be a great researcher."

Students also worry about whether HMS can continue to attract a diverse student body. "As past chair of the Third World Caucus Weekend, it was frustrating to see the number of accepted underrepresented minority students who loved HMS but decided against attending this school when they realized that going to another medical school would not force them to accrue such a large debt," pointed out Victoria McGee '99.

Worried about their future families, the students also spoke about the guilt they feel about the burden they are often placing on their parents. "Because my parents' income has not been what we would have hoped this year, I am probably going to take out another loan of \$4,000 to pay for living expenses through the summer," said Diana Graham '99. "Contemplating this extra loan has been a source of a great deal of stress, grief and guilt in my family. My parents feel guilty for not being able to provide the money, and I feel terribly guilty for needing it."

In speaking for the many at HMS who have been concerned about this problem, Tosteson reaffirmed the school's commitment to improving financial aid and raising additional funds to do so.

## Match and Point

HMS students fared as well as ever, with most matching to the top programs they wanted, according to Edward Hundert '84, associate dean for student affairs. This year represents a continuation of a trend seen in recent years at HMS: only 80 of the 162 students graduating this year are graduating "on time." About half HMS students now take an extra year to do research or community service, or to study internationally.

This year there was a big increase in those selecting emergency medicine (10, up from 2 in 1995). General surgery has been in decline since 1987 when 21 selected it to this year's low of 8 (though there was a surge in 1992 with 22 students). Following a national trend, about half the class is at least starting out in internal medicine. Significantly, not one student is going into anesthesia, "an economic expression," says Daniel Federman '53, dean for medical education, who cites the lack of jobs in that specialty as the reason.

The graduates and their intended specialties are:

## EMERGENCY MEDICINE

Lawrence E. Bloch  
Brigham and Women's Hospital, Boston

Lisa Maria Charles  
Harbor-UCLA Medical Center, Torrance, CA

Michael C. Dyce  
Einstein/Jacobi Medical Center, Bronx, NY

Michelle Amy Finkel  
Brigham and Women's Hospital, Boston

Shawn P.W. Franklin  
Alameda County Medical Center, Oakland, CA

Brent O. Hale  
University of Oklahoma College of Medicine, Oklahoma City

Joshua M. Kosowsky  
University of Cincinnati Hospital, OH

Kendall W. Lee  
McGaw Medical Center, NWU, Chicago, IL

David E. Munoz  
Harbor-UCLA Medical Center, Torrance, CA

Mark J. Sagarin  
Brigham and Women's, Boston

Match Day photos by Steve Gilbert





## **FAMILY MEDICINE**

**James P. MacDonald**  
Maine-Dartmouth Family Practice,  
Augusta, ME

**Starie Lynn Seay**  
Maine-Dartmouth Family Practice,  
Augusta, ME

## **INTERNAL MEDICINE**

**Colleen L. Bailey**  
UC/San Diego Medical Center, CA

**Ruth M. Belin**  
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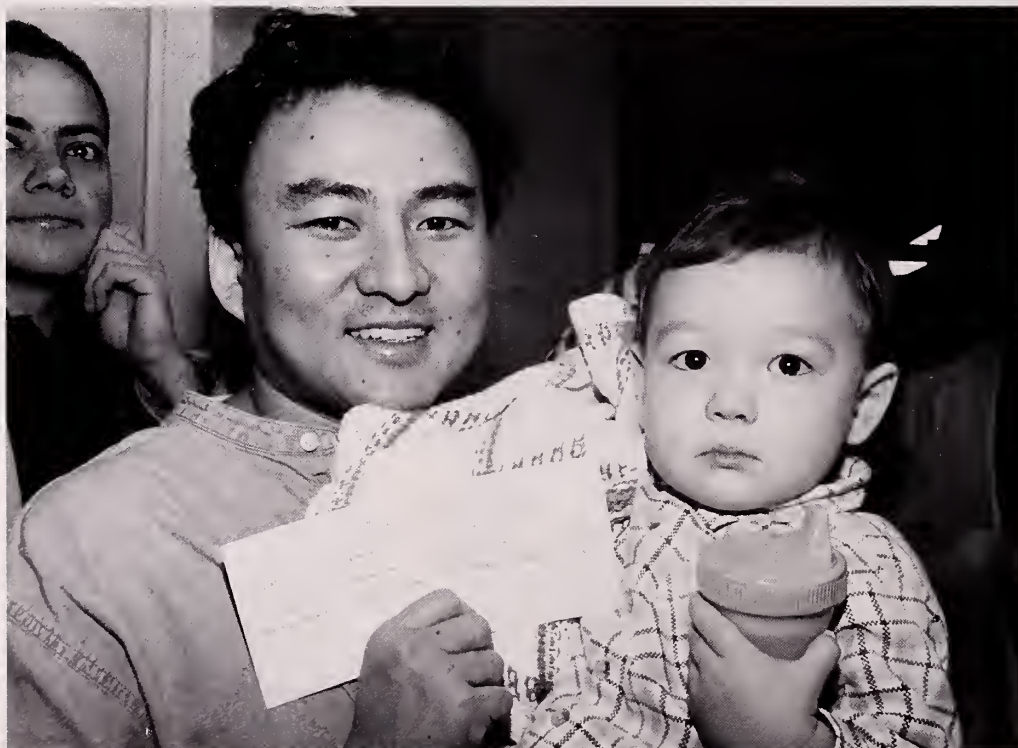
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# On the Quad

## A Case for Countway

If a professorship at HMS were proposed in honor of someone who had been your beloved teacher, a caring physician, an effective innovator...

If you knew that an HMS scientist had demonstrated that a specific peptide-receptor interaction was required for invasion by viruses, had isolated and sequenced the peptide, had characterized its interaction with the receptor, and had created a modified peptide that could block viral invasion...

If you knew that a surgeon in an HMS-associated hospital was about to cure diabetes in humans by transplanting tissue from animals that had been made histocompatible by genetic engineering...

If you knew that a medical student from an impoverished background

would be unable to continue with important research at HMS without some financial help...would you contribute?

Scenarios like these have occurred, and will occur again, in HMS and its associated hospitals. The record shows that we HMS alumni do indeed contribute. In contrast—who ever heard of an exciting let alone inspiring library? It has been much more difficult to enlist fund support for Countway's current \$10 million capital fund drive, but its pressing needs may indeed be related to scenarios like the ones just described.

Included in the planned renovations for Countway:

- Rare books and archives:  
Controlled environmental conditions

and adequate shelf and cabinet space are necessary for the two centuries of collected rare books and manuscripts.

- A reading room that keeps all current issues of intensively used journals secure, intact and immediately accessible, and provides ample electronic equipment for bibliographic search.
- Knowledge Laboratory: an interactive facility that will provide fully-equipped electronic classrooms, the most advanced computers and learning technologies together with the services of a knowledgeable staff.

That hypothetical beloved physician for whom a professorship has been named has also left his papers in the care of the Countway Library. It

photo by John Brooks





costs money to process and store them for a biographer's future use. That hypothetical peptide-receptor scientist learned to model protein-protein interactions in the Knowledge Laboratory of the Countway Library, and carried out critical steps of her work there. The HMS surgeon's work depended upon research using the Countway Library's immunological and genetic databases. And the medical student would not have been able to do the assignments, let alone the research, without frequent access to the Countway Library.

Though the facts make the Countway seem impersonal and irrelevant, they too are impressive: 608,843 volumes stored; 686,920 volumes circulated last year; 3,971 journals subscribed to; users (Harvard, Boston University, Tufts, Massachusetts Medical Society, many others) make 1,000 visits a day, and, just in the last year, asked 48,672 questions of the reference librarian, browsed through 6,590,213 citations on the library's multiple computerized databases, and photocopied 4,009,668 pages.

We should remember that all of the figures convey two very human facts: a vast number of people, working all over the world, year after year, have contributed their data and their thoughts in the form of books and journals so that others, unseen and unknown, can use them, reinterpret them, build on them. The second fact is that vast numbers of people seek those thoughts and those data: caregivers, researchers and historians.

The library is the marketplace where all this occurs. Every day, fresh data, fresh ideas—who knows for sure which ones?—may lead to new therapies, even new specialties. Data from ancient manuscripts on herbal medicine may lead to the cure of previously incurable diseases. In the hands of

historians the men of old may be cast down from their seats, while the humble are exalted. The library is a country with only a few busy intersections in the midst of vast jungles and deserts where a few prospectors and hunters wander alone.

You can also learn a lot more about it by going to the website that Countway librarians prepared for HMS (<http://www.med.harvard.edu>). There you can reach: the Countway Express Retrieve and Copy Service; online publications from the Harvard Medical Area (full text of this magazine is there, along with Focus, the newsletter of HMS, Harvard Health publications, the Whole Brain Atlas, and more). You can use Countway Plus/Ovid to search Medline and other databases, access their Web jewels, and much, much more.

Finally, attention should be paid to the Countway Library building itself, and not just that it is a building of 8 stories and 140,000 square feet. The architect, Hugh Stubbins, could not anticipate rising energy costs, the need for climate control, and the extensive wiring required for electronic equipment.

He did, however, create a temple of learning whose great serene spaces have never been more appreciated than now, as we move into an age of more compact offices with fewer windows. Unquestionably, for some, its highest function is as a place of meditation and contemplation.

*George Richardson '46*

## International Partners

A scant 18 months in existence, Harvard Medical International has found a ready, willing and able international market to sell its "wares." Formed to develop and market programs in medical education, research and clinical care, HMI already is negotiating or conducting uniquely tailored programs in about 20 countries around the world. In just the past several months, HMI has announced inter-institutional alliances with the Asan Medical Center in Korea and with the Rangsit University in Thailand.

"We have found that there is a pent-up need for what we have to offer," says Robert K. Crone, MD, president and CEO of HMI, HMS clinical professor of anesthesiology, and dean for international programs. "There is a worldwide recognition of what quality is and that high-quality health care must be made available." The economies of emerging nations are improving, he adds, and in countries where health care traditionally has been provided "free," there is a need for new models to provide a higher standard of health care.

Harvard Medical School brings quality, legitimacy, comfort and name recognition. "As I go around the world," he quips, "Coca-Cola and Harvard are the two most recognized American names."

As with any business venture, HMI has product lines, offering the following five services that can be tailored to the needs of its international clients:

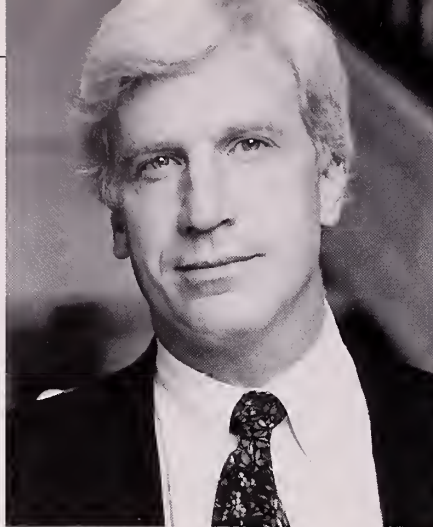
- health care facility development and management (feasibility and analysis demand studies; costs estimation, revenue potential; project planning, financing, development and commissioning; the provision of management services and systems; and clinical staffing and leadership);

# On the Quad

- educational products and services (continuing medical education programs, scholar exchange programs, a CD-ROM library of medical texts and periodicals that is under development, medical education curriculum design consulting, and international versions of the Harvard health letters);
- research services (the development of clinical research facilities, laboratories or training programs);
- consultative services (on all above areas, plus health care policy, quality assurance, service delivery systems, practice plan development, disease management, telemedicine and medical library services); and
- patient care referral and access (to tertiary care at Harvard-affiliated hospitals; eventually to care from a network of Harvard-associated hospitals around the world).

Make no bones about it, Harvard Medical International was formed, in part, to make money for HMS—and it has already—but its long-range goals are in fact much loftier. “If we are successful in our global strategy, we have the opportunity to elevate the standard of health care throughout the world,” says Crone. The global strategy is to create a network of Harvard-quality institutions in strategic locations, linked by the “common language of instruction, a common medical education curriculum, clinical care protocols, and the common aims (methodology, ethics) of research, with Harvard faculty flowing freely within the network and Harvard medical students doing rotations.”

Therein lies another benefit, besides supporting the medical school programmatically and monetarily, of this vision. “Dean Tosteson also saw



this as an opportunity, at a time when medicine here in the United States has reached a plateau and the number of specialists needed is declining, to use our vast resources in the faculty without their having to leave.” Crone’s motivation is to accomplish this so everyone benefits and the state of health care and medical education is improved worldwide.

Crone came to this position from Project HOPE, where he was a senior vice president for medical operations, handling negotiations with foreign governments and institutions. (He had previously been professor of anesthesiology and pediatrics at the University of Washington School of Medicine and before that, a member of the HMS faculty and director of the intensive care unit at Boston’s Children’s Hospital.)

“I’d rather see health care dollars spent on institutions that serve as an example and magnet in specific regions than to work top down on raising the standards of health care through agencies like the World Health Organization,” he argues. “Working in the international health community, I saw billions of dollars spent on trying to shape health policy largely through highly-paid, uncommitted consultants who come and go.”

Both approaches are needed, he acknowledges, “but I am a practical person. There is a global need to improve health care services, but in reality everything has a cost.

Sustainable sources of finding must be identified and used in the most cost-effective manner available. There are real opportunities to link less remunerative but more cost-effective public health initiatives with top-quality treatment centers when facilities and programs are planned together. As examples, clinical laboratory services can also provide clinical epidemiology surveillance for a region and blood banks can serve as regional centers for AIDS diagnosis, counseling and treatment.”

One of the most important things he says he has learned by working outside of the United States is: “Nothing can be imposed upon another country without their wholehearted embrace. We’re not so arrogant as to believe that we know what is good for them. We’re there to provide guidance and support, but only in a partnership with the local medical and business communities.”

Wherever they have a program, they find a local partner—a community group, business, or university—who underwrites or invests in the project, usually with the support and cooperation of the governments and their ministries of health. As word has gotten out about HMI, many groups have come to them. “We have had to find legitimate ways to evaluate requests to see which make sense for us to take on,” says Crone, “in terms of programmatic sense for that particular community and good business sense, in that it could be viable, long term and self-sustaining.”

People often ask Crone what HMI is doing about Africa and other countries that can’t afford direly-needed health care. “I’m upfront that this is a business venture, not philanthropy. We have to be on sound economic footing before we can take on projects that could jeopardize the organization’s ability to survive.”



Even when they get to this point, says Crone, "we will insist that everything we do is self-sustaining. Hand-outs just don't work in my experience." He says that his greatest frustration at Project HOPE was that very often, when the government grants went away, so did the programs. "We have to find a continuing, renewable approach. Putting something on a sound business footing does not mean it is exploitive. It makes sense for the long haul."

Taking on projects that have potential to enrich the Harvard medical community also means to Crone that they hope to learn from their partners in other countries how to provide health care in culturally sensitive and cost-effective ways. For example, in India, though there's a burgeoning middle class of 300 million people, locally defined this is anyone who makes more than \$350 a year. How do you provide health care in that economic environment? "We are hoping to help develop a self-sustaining model of health care delivery with groups in India who are trying to answer this question. We believe that we will be learning from them through this linkage, just as they will benefit from an enhanced standard of health care."

There is intense oversight of HMI to ensure that it embraces the ethics, traditions and mission of the medical school and the university as it pursues its more business-oriented ventures. Crone reports to a board comprised of senior leadership of the medical school, members of the university's corporation, and outside members "with a vision of the world community."

Alumni of the medical school and of residency training programs residing internationally have been used as advocates and sources of local information and counsel. Harvard Business

School graduates, who are often the leaders of business communities around the world, have helped facilitate understanding of regional business practices. And Crone has also sought out Harvard faculty experts on various regions of the world and links with other university international programs where possible.

There is an academic veneer to this business, but it is being run like a business with a bottom line like a business. Crone is purposefully trying to keep the number of executives and consultants on staff relatively small—there are about eight others now—by bringing on additional staff for particular projects as they are funded. He wants to keep the infrastructure lean and cost effective.

Many HMS faculty have already been sent to the Asian Pacific, Middle East and South America on the various projects. Crone himself spends half his time overseas. In one two-week period, for example, he had been to India, Singapore and the United Kingdom. Though realization of the vision of a global network may be 10 to 20 years away, people seem to be listening to his message that "good health is good business."

*Ellen Barlow*

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GENES, BLOOD AND COURAGE:  
A BOY CALLED IMMORTAL SWORD  
by David G. Nathan, MD  
Belknap Press of Harvard  
University Press  
London, England, 1995

by Elissa Ely

Years ago, I rotated through a pediatric clerkship at Children's Hospital, and met a 14-year-old girl with end-stage chronic active hepatitis. She was a tired, plump, passive girl who spent her days in a corner bed that had no cards or chocolates. Her father had skipped town, and her mother wafted in and out of her life as she chose (which, I realize now, was as much as she could bear). On this admission, besides the traditional right-upper-quadrant pain, Marquise had new-onset hematemesis. She lay in bed with a tube down her unhappy nose.

One night after visiting hours were over, I was drawing blood when the door banged open, and a svelte, charcoal woman swirled in. Her arms were filled with baskets and stuffed bears, and she smelled of alcohol. She buried her head dramatically in Marquise's uncomfortable neck, and held it there too long. Then she raised it, saw my white coat, and drew herself up.

"I want you to know," she said, in an elegant slur, "that we are TIRED of these liver pills. Even though we're on welfare, I want you to know we've got the money and the power, AND Mohammed. I want a liver transplant for this child, doctor, and I want it TONIGHT."

Years later, I understood: her bravura was her effort to control an uncontrollable situation. The angry, drunken, sorrowful mother of Marquise had the will but not the way to save her child.

## GENES BLOOD AND COURAGE



*A Boy Called Immortal Sword*

"An unforgettable saga, told with the humanity of a physician and the depth of a brilliant research scientist."  
RICHARD PRESTON, author of *THE HOT ZONE*

Doctors can be luckier. At the end of his book *Genes, Blood and Courage: A Boy Called Immortal Sword*, David Nathan writes, "I'm not going to let the rules of biology stand in my way. If those rules won't let me succeed, I'll have to invent new ones." Those are the kind of flamboyant, intoxicated words that Marquise's mother might have used. But Nathan—researcher, hematologist and HMS professor of pediatrics—had the way as well as the will.

In 1968 he began a relationship that continued through four countries and 27 years. Dayem ("immortal sword" in Arabic) was the son of a wealthy Iranian father and a mother who could trace her lineage to fifteenth-century Mecca. He was diagnosed after birth with a heterozygous variant of the hereditary anemia thalassemia. By the time he was six years old, he had the "stature of an average boy of two" and "the appearance of a highly cerebral gargoyle."

*Genes, Blood and Courage* is about evolutions and revolutions. When Dayem first arrived at Children's Hospital Medical Center, he had "the lowest hematocrit value we ever recorded on a patient who walked into

the clinic on his own." Bone marrow transplants in 1968 carried a 75 percent chance of failure (in 1996 they carry a 75 percent chance of success). Transfusions corrected his anemia but left him overloaded with iron. At 16, a dissident adolescent, Dayem was forced to begin chelation therapy, hooked to an unwelcome holster-pump. ("When teenagers put it on," Nathan writes, "they could smell their own mortality.") After that there were unsuccessful attempts at shunts to make the chelation more palatable ("I felt that we were being closed in by the limits of anatomy"), refined transfusion techniques, and ten hospital admissions in a single year. There were episodes of encephalitis and heart failure. But always, Dayem lived.

Each treatment decision bought time for research on the next. "My era of (research) training," Nathan writes, "was in the 1950s...[when] we were more akin to strip miners than to deep-shaft miners." As a stripminer at HMS in 1952 he knew only through Mendelian analysis that thalassemia was due to two defective recessive hemoglobin genes.

Then in the 1970s deep-shaft mining techniques became available: radioactive DNA probes, restriction enzymes, reverse transcriptase, plasmids and, most recently, polymerase chain reactions. Researchers—including Nathan and collaborators at Children's Hospital and Massachusetts Institute of Technology—were able to isolate, clone and sequence thalassemia genes. They found that the beta thalassemia defect was due to depressed mRNA activity—sometimes total mRNA absence, sometimes severe mRNA dysfunction.

In 1982 Nathan's laboratory published the definitive work on six subtypes of mutations affecting different



parts of the beta gene differently. These days a precise lesion can be detected in almost every patient, and prenatal detection (in combination with selective abortion) has rendered the disease preventable. "Deep-shaft mining" genetic techniques have also made it possible to prolong the protective powers of fetal hemoglobin—normally absent after birth—in thalassemia patients. Eventually, they may even make it possible to insert normal hemoglobin genes into stem cells before bone marrow transplantation.

Reading what a researcher has written about his life work is like sitting behind a bush pilot with a lot of ground to cover. Nathan sets down briefly (and sometimes a little wildly) on all kinds of terrain: Darwinism and balanced polymorphism; the history of National Institutes of Health; the ethics of patient trials; the discovery of Desferal (the iron-chelating agent) in a fungal extract; the impact of Roe v. Wade on fetal research; the delicate relationship between pediatrician and parents; the "pernicious" opposition to recombinant DNA research that reached back to civil rights and Vietnam eras. He lands for a longer time (as he should, since this is his destination) on hemoglobin—its genetics, structure and "switching" during fetal development.

Most importantly, in this long ride, he circles continuously around the many years of his relationship with Dayem: first with the child Dayem ("I felt I had known him for years"), then with the raging adolescent Dayem ("his indolent life angered me"), and finally, with the grown Dayem (now 34) who has become a successful entrepreneur, using a portable phone from his hospital room to sell bullet-proof limousines to buyers in the Near East.

Over its decades this relationship persuaded Nathan not to let biology stand in the way of treatment.

What a researcher needs is money, equipment, technique and time. What a patient needs is care, strength, treatment and time. What they need in common is time, always time.

How beautiful it is, then, when the researcher lives long enough to see his questions answered! How beautiful when his patient lives long enough to live some more!

*Elissa Ely '88 is a psychiatrist in a Massachusetts state institution, a commentator for NPR's "All Things Considered," and an occasional op-ed writer for the Boston Globe. She is also a member of the editorial board of the Harvard Medical Alumni Bulletin.*

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# The Invisible Mainstream

*Millions of Americans are using alternative therapies, but which ones really work and why?*

*by David M. Eisenberg*



MEDICAL CONCEPTS AND PRACTICES alternative to mainstream American medicine have gained dramatic and increasing public attention in recent years. Consumers today spend billions of dollars on the more commonly used alternative or complementary therapies, which include chiropractic, homeopathy, acupuncture, herbal remedies, meditation and dietary supplements. These are all medical techniques that doctors don't usually learn about in medical schools, but people use nonetheless for such major conditions as back pain, cancer, headache, chronic pain, addictive disorders and AIDS.

About five years ago, my colleagues and I set out to document the extent to which Americans use alternative medical therapies. The results of our national survey, published in the January 28, 1993 *New England Journal of Medicine*, raised eyebrows in both

the medical and nonmedical communities. For example, we found that:

- About 60 million Americans used at least one alternative therapy to treat a serious or bothersome medical problem during the previous year.
- Seven of ten people who used alternative therapies never mentioned this to their medical doctors.
- In 1990 Americans spent about \$14 billion on alternative medical therapies, \$10.5 billion of which was cash out-of-pocket. That's almost as much as the \$12 billion spent out-of-pocket on all hospitalizations that same year.
- We estimated that over a 12-month period, Americans made 425 million visits to offices of alternative medical practitioners (chiropractors, acupuncturists, homeopaths, etc.). This

exceeded the number of visits made that same year to all internists, family practitioners, GPs, gynecologists and pediatricians combined.

It was as though we had discovered what my friend, Janis Claflin of the John E. Fetzer Institute (who has supported this work), called "the invisible mainstream" of U.S. health care.

A month after the survey's publication, PBS aired the documentary series "Healing and the Mind with Bill Moyers." The series, which looked at a range of alternative and mind-body therapies, ushered in a second wave of popular debate. People were asking: "Do alternative medical therapies work? Can the mind predictably alter the body in ways that change the course of health or illness?" Given the country's response to "Healing and the Mind," it was clear that tens of millions of Americans wanted

additional information about alternative medicine.

Patients want to know which alternative therapies may be beneficial. For example, a patient whose severe low back pain has not responded to medications, physical therapy, or surgery, wants to know if chiropractic will help him. A mother wants to know if homeopathy can possibly help her son whose ear infections have not responded to five courses of powerful antibiotics. Then there's your patient with breast cancer who wants to know if a macrobiotic diet is worth considering; if acupuncture or herbs can reduce the side effects of chemotherapy—the nausea, weight loss and anemia; and if any of these therapies are potentially dangerous and therefore contraindicated?

We can all think of patients for whom conventional medicine has been exhausted, whose suffering is ongoing, and who desperately and understand-

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*My guess is that most of us have at least one friend or family member who has used an alternative therapy.*

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ably want to know: "What else should I try?" My guess is that most of us have at least one friend or family member who has used an alternative therapy to treat a serious or bothersome problem.

Shortly after the PBS series aired, Senator Tom Harkin, then chair of the Senate Health Appropriations

Subcommittee, held a hearing in Washington to discuss funding for alternative medicine research. In response to constituents' demands, Senator Harkin and others in Congress requested that the National Institutes of Health evaluate alternative medical therapies. Thus, the Office of Alternative Medicine was created by Congress with initial funding of \$2 million.

As I testified before Senator Harkin's subcommittee, I argued that we need to rigorously evaluate what works and what doesn't, what's toxic or safe, and what's beneficial. I also stated that research centers should be built in the midst of our most respected medical institutions to insure credibility and fair-mindedness. Today, some four years later, there are ten such centers funded by grants from the NIH's Office of Alternative Medicine. The Center for Alternative Medicine Research at Beth Israel

## Setting a New Course

Interest in learning about alternative medicine is strong among medical students and growing among older physicians, who are signing up for related continuing medical education (CME) courses at Harvard in record numbers.

At least 40 U.S. medical schools now offer a student course devoted to alternative or complementary medicine. The HMS course directed by David Eisenberg '80 is called *Alternative Medicine: Implications for Clinical Practice and Research*, and has been offered since 1993. It is an elective one-month course that meets five days a week, five hours a day. Through a combination of case studies, visits from alternative

practitioners (chiropractor, homeopath, acupuncturist), immersion in the rules of scientific evidence, and critical reading of the literature, students come to understand the basic theories of alternative therapies and current knowledge or lack thereof about their efficacy and mechanisms of action. Each student is required to design a prospective, randomized controlled trial to critically assess an alternative medical therapy.

Eisenberg, though open-minded, is an advocate for rigorously evaluating these therapies. In the course, students are required to critique studies on alternative therapies in top-tiered journals, based on quality of methodology, results and conclusions. The goal is not just to regurgitate what the author did, but to assess whether the methods were sufficient to come up with the

conclusion reached. In all cases they come to the conclusion that there is not enough evidence, points out Eisenberg.

"By the end of this course, they have figured out the rules of evidence," he says. "They come up with marvelous, creative experiments, which are often better designs than ever done. I wish I had unlimited funds to support some of their trials."

These students, he says, will be intelligent, critical reviewers of any article about any kind of therapy. "They come away humble about how few of the things we practice on the wards have been subjected to this level of controlled investigation."

The backbone of this course, as most other HMS courses, are the cases. One of the five cases, for example, is called

### An Odyssey of Healing:

"Shelley Rollins, a 34-year-old clinical psychologist, is found to have stage III adenocarcinoma of the breast. In addition to lumpectomy, chemotherapy, radiation therapy and psychotherapy, Shelley decides to begin a strict macrobiotic diet. She also undergoes acupuncture, massage and "energy healing" in an effort to maximize her health. You, her primary care physician, are asked to coordinate Shelley's care."

According to the prospectus, the case addresses a wide array of unproven cancer therapies, explores reasons patients use these therapies, and offers opportunities to improve interviewing skills and patient/doctor communications. The students meet with providers, ask them questions and personally experience selected techniques. At the end



Hospital, Harvard Medical School, last fall received an award of \$935,696 over three years to focus initially on alternative therapies for low back pain and coronary artery disease. Other NIH centers are based at Stanford University, University of California/Davis, Columbia University, Minneapolis Medical Research Center, University of Maryland School of Medicine, University of Texas Health Science Center, University of Virginia School of Nursing, Kessler Institute for Rehabilitation in New Jersey, and Bastyr University AIDS Research Center in Seattle.

With these NIH grants, alternative therapies will come under the same scientific scrutiny and open-minded skepticism that has long characterized the finest research within conventional medicine. Through the development of methodologically rigorous and balanced analyses, the Beth Israel's

Center for Alternative Medicine Research will neither advocate nor condemn alternative therapies, but rather seek to understand their usefulness or lack thereof.

Historically practitioners of alternative medicine, like acupuncturists, massage therapists and herbalists, have not been trained in scientific rules of evidence nor in the design of controlled trials. At the same time, our leading medical researchers have not focused their attention and talent on alternative medicine. As a result, sound research methodologies have not been applied to produce definitive, unbiased clinical trials. In this era of cost containment, further obstacles exist because cost-effectiveness data regarding individual alternative therapies are practically nonexistent.

In the absence of such information, medical providers cannot make sound clinical recommendations regarding the use or avoidance of alternative

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*Sound research methodologies have not been applied to produce definitive, unbiased clinical trials.*

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medicine; third-party payers are unable to create well informed reimbursement policies; and consumers of alternative therapy must contend with an endless array of unsubstantiated claims.

Our center at the Beth Israel Hospital aims to change that status quo dramatically. We are planning our

of this and every case the students also have a chance to role play. Eisenberg acts the role of the patient and students imagine giving advice about the use or avoidance of alternative therapies for those with cancer.

"There will always be alternative therapies," points out Eisenberg, "and this trains the doctor of tomorrow to put them in authentic perspective. How does a physician have an intelligent conversation with patients of this era about therapies for which there is insufficient information regarding efficacy and safety? And from the patient's point of view, isn't it advantageous to identify a physician who is comfortable talking about this subject?"

Student response to this course has been overwhelmingly positive, earning it "extremely high ratings, rarely

achieved by any HMS course," says Miriam Wetzel, the curriculum coordinator in the Office of Educational Support who analyzes the student evaluations for Eisenberg's course. An unusual 100 percent of students said they would recommend that their classmates take the course.

"From an educator's point of view this course is especially valuable because of its emphasis on the development of the students' critical thinking skills," adds Wetzel. "It is a course with a sound scientific basis and great practical value."

Eisenberg has compressed the content of this course into three days for a CME course he has directed the past two years. The emphasis in the CME course is on the implications of alternative medicine for clinical practice. In addition

to reviewing and demonstrating the various therapies, strategies are discussed on how to responsibly advise patients who use or want to use them. Issues of reimbursement, credentialing and licensure, and malpractice liability are also addressed.

"Physicians need someone to translate these issues in an atmosphere that provides an intellectually safe place to have an honest discussion," says Eisenberg.

In fact, "there is a huge interest in this area on the part of physicians who want to know more or offer more options in their practices," according to Nancy Bennett, PhD, director of educational development and evaluation for the Department of Continuing Education. In addition to Eisenberg's course, Herbert Benson '61 teaches courses on

behavioral medicine and on spirituality and healing; and other CME courses, for example in orthopedics, feature lectures on chiropractic techniques.

"My interest is how to enable physicians to responsibly advise patients regarding the use or avoidance of alternative medical therapies," says Eisenberg. "This is not radical; it's being the patient's advocate and serving their best interest."

*Ellen Barlow*

studies meticulously, engaging open-minded yet thoughtful senior colleagues from the affiliated institutions of Harvard to help us design studies that meet the accepted rules of evidence. We will develop research in managed care settings to improve our ability to track success or failure of treatments as well as costs and patient satisfaction.

When and if we uncover therapies that work, we'll try to figure out whether they work because of the herb, the vitamin, the acupuncture needle, or the belief in the herb, the vitamin or the acupuncture needle. If, in some instances, it is the belief or expectation that predictably changes physiology and the course of disease, we must invite our basic science colleagues to help unravel the mechanism whereby this occurs. Clinical studies may help identify selected individuals in whom this mind-body interaction is most strong.

Constructive critics argue that much of the effectiveness of alternative therapy is based on the placebo response. There has been minimal research in this area since the seminal work of Beecher in the 1950s. Our center will dedicate some of its resources to quantifying the variability among placebo response rates. We seek to answer the question: What are the differences in placebo response rates over time and what are the factors that will help us understand that variability? Our first such experiment is a meta-analysis of relevant clinical trials involving patients who are being treated for hypertension, one group with a standard antihypertensive, the second group with a placebo.

Another priority is to develop a range of prospective trials to assess the safety, efficacy, cost-effectiveness and mechanism of action of alternative therapies. Currently under development at the center is a randomized clinical trial of a managed care population with low back pain. This study will compare patients who receive standard care for their symptoms with

those who receive "expanded benefits," e.g., chiropractic, acupuncture, or massage therapies. Our goal is to find out if patients will have improved clinical outcomes, higher satisfaction and lower costs if treated with a combination of conventional and alternative therapies. We also hope to learn about patient preferences and compliance. This is an exciting venture not only for the scientific data that it will yield, but because it represents an unprecedented and unique collaboration among a managed care organization, an NIH supported research center, and representative associations from the areas of chiropractic, acupuncture and massage therapy. Other projects under development at the center include:

- A five-year follow-up to the national survey published in the *New England Journal of Medicine* in 1993.
- An NIH protocol to assess the safety and efficacy of chelation (EDTA) therapy in the treatment of patients with coronary artery and peripheral vascular disease. It is estimated that 500,000 patients a year use this therapy at a cost of \$3,000 per person, without established clinical studies to determine safety or efficacy.
- A randomized, double-blind trial to assess the safety, efficacy and cost-effectiveness of homeopathy in the treatment of chronic otitis media.

Although we will focus on research, we will also address the current needs of our patients. We intend to develop reliable information about alternative medicine through the Beth Israel Hospital Patient and Family Learning Center in the new clinical center. Also under consideration is an experimental unit at Beth Israel Hospital, where patients who have exhausted conventional care can be referred by their primary doctor or subspecialist for entry into a randomized controlled trial comparing conventional care to a combination of conventional care and

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*As practitioners we need to know our moral, ethical and legal responsibilities when patients tell us they are using an alternative therapy.*

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alternative therapies. Patients with chronic low back pain are likely to be the first population to be studied.

In addition, we are collaborating with legal scholars to anticipate the malpractice, liability and licensing issues that will affect us all. As practitioners we need to know our moral, ethical and legal responsibilities when patients tell us they are using an alternative therapy. Who is responsible when the patient who has exhausted conventional care requests a referral to an alternative provider and the outcome of that referral is detrimental? In this regard, the field of alternative medicine is at a crossroads similar to that of assisted reproductive technologies 20 years ago: an increasing market and availability, with the legal and ethical implications not yet determined.

Perhaps as we begin to answer these legal and ethical questions, we will begin to feel more comfortable as medical doctors about advising our patients about alternative therapies. Given the survey data that showed that at least one in four of our patients are using alternative therapies and not telling us, in whose interest is it not to ask?

There is a Chinese proverb: "Zhen jin bu pa huo lian," real gold does not fear even the hottest fire." It will be our focus on clinical and scientific evaluation that will distinguish this center. In the process, Beth Israel



Hospital and Harvard Medical School will establish a new standard of excellence in this emerging field.

Why should Harvard Medical School be a leader in this? My answer is a quote from David Grimes, who in writing about medical technology (JAMA June 16, 1993), exemplifies a central premise of our new center: "Doing everything for everyone is neither tenable nor desirable. What is done should be inspired by compassion and guided by science, and not merely reflect what the market will bear."

Medical therapies should be inspired by compassion and guided by science. This, I believe, is the mission of our center and ultimately what medicine is about. I suspect that in the coming years we will see an explosion of knowledge about alternative therapies gained by the application of both compassion and science to the care of others. ❧

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# Call for a New Medicine

*by James S. Gordon*

EVERY DAY, THOUSANDS OF AMERICANS are turning in desperation from conventional medicine to other forms of health care. Those who call me say they have heard “something” about alternative medicine or a holistic approach, acupuncture or hypnosis, nutrition, herbs, chiropractic, homeopathy, or group support; a story about someone who seemed hopeless but who is now well; some encouraging remark that rings an obscure bell. They are, they tell me, sick and often sick and tired too, of the way they’ve been treated as well as the treatments they’ve been receiving.

When they arrive, they say they believe that alternative therapies are somehow more hopeful, as well as different from conventional ones. They are eager for a holistic approach, one that recognizes that they are whole people with feelings as well as fevers, with likes and dislikes in addition to lab values. And they, along with 60 million other Americans who each year use unconventional therapies, are ready to commit their minds, bodies and money to what they hope will be a more effective and respectful, less toxic, less expensive, and altogether better way to receive care and care for themselves.

Though alternative medicine includes such distinctly modern techniques as intravenous chelation therapy, and though these techniques may be used in a way that is as narrowly instrumental as any conventional

medical procedure, the presiding spirit of this approach is grounded in traditional healing systems and is integrative and embracing. All these systems—from classical Chinese medicine to Indian Ayurveda to South American indigenous healing practices to North American “natural medicine”—are based on an understanding that modern biomedicine has largely forgotten. All tell us that we are part of a larger world, and indeed, a small version, a microcosm of it. We are made of the same stuff as the earth, water and air around us. We are as connected to the cycles of our planet’s seasons, the quadrants of the compass, and the hours of each day as we are to the ebb and flow of the blood and chemicals in our bodies.

These systems declare that we are spiritual beings, emanations of something beyond us, as well as bodies and minds. They remind us that we are connected to one another, to the earth, and to that beyond in ways that are more powerful and deeper than any of us may know. Disease, they explain, represents an imbalance within ourselves and between ourselves and the natural, social and spiritual world. Our health and our healing depend not only on careful diagnosis and expert intervention, but on a restoration of that balance.

Most of the people who choose and use alternative therapies and a holistic approach are suffering from the chronic, often debilitating,

sometimes life-threatening conditions that have been called “diseases of civilization.” Sixty million Americans have high blood pressure and are particularly vulnerable to heart disease and stroke. Forty million of us have arthritis, and some ten million are afflicted with asthma. This year, more than one million people will be diagnosed with cancer and, during our lifetimes, as many as forty percent of us will develop one form or another of it. Thirty million Americans will have a clinical depression at some point in their lives. Twenty-three million of us suffer from migraine headaches, and up to 80 percent of our population will at one time or another have a back problem.

For some of these people, conventional medicine has provided little more than symptomatic relief. Others have found the side effects of treatment to be almost as distressing as the illness itself. And even those whose treatment has seemed successful—for example, patients with certain kinds of cancers—are searching for some way to build up their bodies, minds and spirits, as well as to oppose the assault of their disease. Still others—an increasing number it seems—have turned to alternative or holistic practitioners in search of a comprehensive understanding or a patient, respectful attention that they have found missing in conventional care.

A few who look for help from alternative medicine, and indeed some who





photo by Stuart Darsch

practice it, utterly reject the principles and practices of biomedicine. To them, this world view seems hopelessly reductionistic, its techniques—surgery, chemotherapy and radiation—barbaric, and its practitioners suspect. The vast majority of patients and practitioners, however, are desperately searching for a synthesis, some way to use both conventional and alternative approaches. They want to be able to rely on the sureness and potency of an established medical system that has served them well over time and promises to succor them should they fall desperately ill. At the same time, they want to avail themselves of the therapies of other practitioners and of an approach that complements and enriches their ongoing treatment.

The “new medicine” that increasing numbers of physicians and patients are creating together is, we hope, this kind of synthesis. It includes biomedicine’s belief in analysis, and makes use

of its powerful genetic and biochemical observations and understanding, and its chemotherapeutic and surgical treatments, but it is not limited to or defined by them. It puts all of these into a context in which they are aspects of a broader view of medicine and healing and, indeed, being human.

At the heart of the new medicine is an approach to physical and psychological functioning that is celebratory as well as scientific. The new medicine fosters an optimistic and hopeful attitude toward the experience of illness, an understanding that illness can be a great teacher—about what our stresses are and where we may need to direct our lives—as well as a misfortune. The

new medicine is based on a therapeutic relationship that is more egalitarian than authoritarian, a true healing partnership. And it creates a new synthesis of ancient and modern, conventional and unconventional techniques, the best of modern science and the most enduring aspects of perennial medical wisdom.

In the practice of the new medicine the drugs and surgery that are cur-

rently central to biomedicine are peripheral—highly prized, but seldom and carefully used. Approaches that have been regarded as peripheral—self-awareness, relaxation, meditation, nutrition, exercise—are its vital center. Self-care is understood to be the true primary care. Health promotion is a way of life.

Increasing numbers of us are offering this new medicine—of synthesis, self-care, partnership, and transformation—to patients whose desperation or discernment has driven them to search for it. The challenge now is to find out which aspects work best, when to use them, and how to combine them most intelligently. We need also to insure that this new synthesis is available to all patients and integral to medical education.

In my recent book, *Manifesto for a New Medicine*, I've discussed the elements of this approach and show how they may be woven together in the rich tapestry of clinical practice. Here I want to step back and take a look at some of the changes this practice implies for our service delivery systems, research and education.

#### SERVICE

The new medicine ultimately depends not on any particular technique—conventional or alternative—but on the attitude of those who practice it. It suggests that we must reanimate the concept of service that brought most of us to medicine, that we must recall that service to others is both the medium for all our ministrations and a great honor and privilege.

Service begins with the way we approach our patients. Most often this is through a process of question and answer, taking a “medical history.” We all learned in medical school to proceed slowly and respectfully, to ask about our patient’s psychological and developmental history, to find out about his or her family, work and social lives. In many contemporary practices, however, this respectful, comprehensive understanding has

been reduced to a hurried frontal assault on the biochemical and physiological facts.

Even though many people suffer greatly from frustration and dissatisfaction on their jobs, their work life is reduced in most medical encounters to a line on a form about “occupation.” Concern with the family, which so profoundly shapes our emotional and mental lives, dwindles to a few questions, angling for genetic causation, about parents’ and siblings’ fatal and most significant illnesses.

The exclusive focus is too often on the “chief complaint” and the “present illness.” Physicians are there to get the essential information so that they can order the tests and procedures necessary to make a definitive diagnosis, formulate a treatment plan, and prescribe the appropriate drugs and the necessary surgery. The whole range of peoples’ lives and histories, save for their previous surgeries, major diseases, and allergies to medication, is cropped from the picture. Too many aspects of the current medical system—from the narrowness of the biomedical perspective, to the time pressures on interns and residents, to the partially self-generated and endlessly justified economic constraints—encourage this way of seeing and doing things. It has to change.

In addition to restoring our concern with careful and complete history taking, we have to establish another kind of relationship with our patients. In place of the compliance that so many physicians seek, we need respectful collaboration. Patient compliance with doctors’ prescribed regimens is notoriously poor. Patients who are asked say they often feel manipulated or that the prescribed medications are a way to avoid dealing with real causes and real issues.

Collaboration and full participation in all aspects of their care is another matter. I’ve observed that patients who never have complied—for example ex-addicts and teenagers with chronic illness—will, when they are ready to,

enthusiastically embrace programs they have helped design, ones that respect their perspective and enable them to help themselves.

There are, of course, times for authoritative medical intervention, of both the conventional and the unconventional kind. A patient with an overwhelming infection is in need of an expert to select and administer the most appropriate antibiotic, just as someone with an acute musculoskeletal problem may benefit from osteopathic or chiropractic manipulation and acupuncture. However, for the kinds of chronic problems with which the vast majority of people must daily deal, teaching, not treatment, is primary. And teaching, the respectful sharing of perspectives and knowledge, depends on this therapeutic partnership.

In the new medicine, the majority of our therapeutic work is based firmly on approaches and techniques that patients can learn and do themselves. These include exercises to promote self-awareness; relaxation, meditation, guided imagery, biofeedback and self-hypnosis; changes in diet and the use of herbal therapies; physical exercise, the meditative movements of yoga and tai chi, breathing techniques, and postural reeducation. These have become the heart of my and many of my colleagues’ medical practice, as well as the central elements of a lifelong process of health education and promotion.

When actual treatment—the doing of something to one person by another—is necessary, the preferred means is to restore the body to its natural state of balance rather than to interfere with normal as well as abnormal biological processes, producing side effects, and reducing symptoms, without addressing the causes of illness. The new medicine suggests that only if these approaches are inadequate should we use the powerful drugs and surgical procedures that have in recent years become the staple of everyday care.

In the future, for example, we might insist on manipulation,



acupuncture, massage, and baths for an injured back prior to even considering long-term use of anti-inflammatories or back surgery. Homeopathy, dietary changes and herbal remedies—all of which are supported by some good scientific evidence and centuries, if not millennia, of clinical experience—could be the initial treatment for such common ailments as sinus and middle ear infections, diarrhea, hay fever, and other allergies. For asthma, we might no longer routinely prescribe inhalers, bronchodilators and steroids—substances that combat the inflammation and constriction of the bronchi but create dependence and do not significantly alter the course of the illness or address its causes. These have their place, but as last resorts, not as primary treatments. Instead, we might preferentially, and wherever possible, begin therapy with acupuncture and herbs, as well as family discussions, self-awareness, and relaxation tech-

niques, breathing exercises, dietary and environmental change, and yoga.

This new medicine of self-care and nontoxic intervention is already being practiced by several thousand physicians. Some, like me, work individually, using a number of modalities and, when appropriate, referring to conventional medical specialists and nonconventional practitioners. Increasingly, physicians are working in groups with nurses, acupuncturists, biofeedback technicians, nutritionists, massage therapists, chiropractors and other practitioners. Some of these groups function as physicians' private practices; others are holistic health centers, more or less close confederations of professionals who work collaboratively and refer patients to one another. Still others—in rapidly increasing numbers—are components of health maintenance organizations like Kaiser's.

This kind of perspective and practice is also emerging in hospitals.

Some anesthesiologists, understanding that the briefest of interventions can reduce postoperative medications and time in the recovery room, are teaching relaxation and breathing techniques to their pre-op patients. Long skeptical oncologists in my city and around the country are now referring their patients to therapists who use relaxation therapies, guided imagery and group support. Orthopedists and physiatrists are introducing manipulative therapies, acupuncture and massage into their wards and clinics.

Nurses in cardiac care and intensive care units are providing therapeutic touch—a hands-on healing technique that has been demonstrated to decrease anxiety and discomfort—along with high-tech medical interventions. Acupuncture is already a primary treatment for addiction; and biofeedback has become a staple of pain control. In multi-disciplinary units of behavioral, mind-body,

## No Turning Back

It was an agonizing lower-back injury 23 years ago that led Jim Gordon '66 to remedies that were antithetical to everything he had been taught in medical school. The answers to his immediate problem became the questions for further exploration, a process that has led to his synthesis of traditional and alternative medicine.

At the time he injured his back, he was a research psychiatrist at the National Institute of Mental Health, establishing a model program for working with runaway and homeless young people. Bed rest didn't help his back. Repeated visits to the orthopedists "were becoming progressively less cordial." A myelogram, a

prelude to back surgery, was recommended.

"By this time I was desperate," writes Gordon in *Manifesto for a New Medicine: Your Guide to Healing Partnerships and the Wise Use of Alternative Therapies*. "Each day in the office was an ordeal. If I took muscle relaxants, I would grow sleepy during the meetings where we thrashed out the details of our program. If I didn't, I was in agony as I drove around the city to work with the kids and their counselors. My attention span was short. I couldn't write the papers I had promised journal editors. Ordinarily fairly even tempered, I was now poised on the edge of anger, ready to shout at anyone who crossed me. In constant pain, still stiff, and bent over, I felt three times my age."

Someone suggested that he see an osteopath; though he could figure out that it had something to do with bones, at that time he had never heard of osteopathy, a medical therapy in which the back is "manipulated." He felt better after each treatment but the pain and paresthesias returned minutes to hours later. Close to despair, he decided to call a Chinese-trained, Indian acupuncturist and naturopath named Shyam Singha, whom he had heard about a year earlier from an English friend who had been helped by him.

Singha told him to stop the medicine, take hot baths with Epsom salts followed by cold showers, and to eat nothing except three pineapples a day for a week. An HMS graduate and a NIMH researcher, Gordon of course wanted to know why. Singha's explana-

tion: pineapple has malic acid and malic acid affects the lung and colon, which in Chinese medicine are the mother of the kidney and bladder, which are connected to the back.

"He was right—it made no sense to me. But I didn't want a myelogram, and I knew I didn't want surgery. Nothing else had worked, and none of my doctors even had anything else to offer. He had helped Richard. And something about Dr. Singha, an authority I did not understand, moved me. I decided to do what he said."

After three days, he called Singha. His mouth was full of sores, he had a 103-degree fever, his back hurt as badly and the paresthesias were as strong as the day he injured it. To prevent the sores, he was told to put honey on the pineapple. The rest, Singha



complementary and alternative medicine, these modalities and others are being combined to address such stubborn problems as chronic pain, hypertension and insomnia. I would hope that in the very near future these kinds of approaches will be considered part of a truly comprehensive medical approach, as vital to good hospital care as drugs and surgery.

It seems entirely possible that if we enlarge our perspective and practice of medicine, we might expect not only better outcomes, but financial savings as well. Indeed, recent studies on the alternative or mind-body approach to specific disease conditions have demonstrated significant cost-benefits. Work with people with chronic pain at the Deaconess Hospital's Mind/Body Medical Institute showed that ten classroom sessions—presenting information on the mind-body connection, relaxation training, yoga and problem-solving skills—not only decreased the

depression and anxiety that ordinarily accompany this condition, but saved \$100 per person per year in physician visits and other medical costs. Stanford's Arthritis Self-Help Program recorded even larger savings for its patients: as much as \$648 per person per year over a four-year period for people with rheumatoid arthritis. Since as many as 70 million Americans have chronic pain and two million have rheumatoid arthritis, the potential savings in these two conditions alone are enormous.

The economic benefits of bringing this new medicine into high-cost hospital settings are even greater. One simple intervention undertaken at the University of Miami, the use of regular therapeutic massage for low birth-weight babies, not only produced more normal growth and development and strengthened the maternal-infant bond, but saved a great deal of money. These babies were able to leave the

hospital on an average of six days earlier than those who were not massaged, at an average saving of some \$3,000 per child.

#### RESEARCH

This kind of care is already immensely attractive to Americans. We know from David Eisenberg's *New England Journal* study that in 1990 one-third of the American people made 425 million visits to alternative care practitioners and spent some \$13.7 billion on unconventional medical care, \$10.5 billion of which they paid out of their own pockets. And there is little doubt that since then, all these figures have increased significantly. But public interest and acceptance is not enough to certify effectiveness or insure progress. Enduring change in medicine depends on reliable information, on research as well as hope and need. And research requires a commitment of scientific expertise and money.

**said, was a good sign: in Chinese medicine a chronic disease must become acute before it can be healed. By the week's end, Gordon's back was 80 to 90 percent better, he was 12 pounds lighter and "far clearer in my mind." Per Singha's instructions, he went back to the osteopath and this time the adjustment held.**

**His recovery excited him, though "the means had been even more outlandish and improbable than the man who'd made it happen." He writes: "But something had come alive in me during this therapy, some direct full connection to my own biological processes, some inkling that there were, perhaps, secrets in the natural world that were not revealed by our texts of biochemistry and physiology."**

**He did a little self-experimentation to find ways to ease his bad allergies without antihistamines. He drank herbal teas, ate garlic and onions, and felt better. That excited him enough to do some serious reading on herbalism, folk remedies and Chinese medicine. He learned about a folk remedy for allergies: chew a cubic inch of locally produced honeycomb three times a day for three months. He did and by spring, "discovered that my allergies had all but disappeared."**

**He met Singha about a year after he recovered from his back problem. This time he was a very willing student. "Listening to Dr. Singha speak about the ancient laws of Chinese and Indian healing, I could feel his words, like some living force, working and surging in me. Later, when he**

**treated me with acupuncture, I felt a power I had never imagined."**

**Gordon was eager to learn more. He thought these therapies might help the kids with whom he was working. But Singha told him to forget about those kids for now. He said that he could teach him techniques and treatments that work, but that first the person who uses them has to change. He prescribed six months of daily meditation with "chaotic breathing," a practice in which one breathes as fast and as deeply as possible through the nose while pumping the arms like a bellows for 40 minutes.**

**Six months later, he says, "I felt more at home in my body, looser in my injury-jammed knees, lighter on my feet, more responsive to the taste and texture of foods, a bit more sure**

**and loving in the way I touched others." He began to explore the therapeutic use of foods and herbs and the points and meridians of acupuncture. Sometimes he intuitively felt what foods and emotions made his allergies worse on one day than on another, and counter to rational understanding, to "know" where to rub for relief of some ache, or what herb to use.**

**A sense began to rise in him that maybe every person's illness is different from everyone else's, and in fact different in the same person from one hour to the next; that all of us can explore and understand both our own biological and psychological nature as well as our connection with Nature. He began to realize: "We are whole as well as unique, and each aspect of our lives—the emotional, mental and spiritual**



With this in mind, Congress established the Office of Alternative Medicine (OAM) at the National Institutes of Health (NIH). Though the initial budget was, as its first director noted, "homeopathic"—\$2 million out of a total of \$10 billion allocated to NIH—OAM's presence has been catalytic. Overnight, doing research on alternative medicine became a worthy subject of scientific scrutiny and a route to academic advancement. Though the office sometimes seems buffeted—constrained by the inherent conservatism of a huge scientific establishment and agitated by the impatience of patients desperate for cures, and researchers and clinicians eager for a hearing—it has found a place as a member of the NIH family and a higher level of funding. This year's OAM budget is \$7.4 million.

Always enormously visible—there were times when the numbers of calls and public attention were overwhelm-

**as well as the physical—is rich and complex and deeply connected to the others."**

**He began to appreciate that all the dimensions of life are crucial to understanding and treating an individual's illness. From then on his life and practice of medicine were irrevocably changed.**

**Ellen Barlow**

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*A central purpose is to explore the relevance and use of other methodologies in addition to the randomized controlled trial.*

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ing to OAM staff and astonishing to NIH—the office is in a unique position to make available the reliable information that already exists on alternative therapies and to enlarge the scope and guide the direction of research. There are many hundreds of excellent, already-published studies on a variety of different alternative therapies—for example, on meditation, relaxation, hypnosis, guided imagery, homeopathy, chiropractic, acupuncture and herbal therapies. I've presented a number of them in *Manifesto for a New Medicine* and more were noted in the 1995 report to the OAM, *Alternative Medicine: Expanding Medical Horizons*. The report, which hundreds of clinicians and researchers prepared over two years, provides an impressive amount of authoritative information about the effectiveness of these and other practices and possible directions for future research. It's a good start and needs to be far better known.

Meanwhile, the OAM is assembling a comprehensive database of articles on alternative approaches. These are being gathered in one place, and are to be made easily accessible to researchers, clinicians and consumers. In addition, there is a growing recognition of the importance of making sure the information in the report and the database actually exercises some effect on medical practice and research.

Drug companies expend hundreds of millions of dollars to present the research findings on their products, over and over, to every physician and medical student. We should, in the public interest, spend a portion of the NIH's money to do the same for all the promising, nonpatentable, nonpharmacological therapies.

In addition to making available existing data, the office is collaborating with NIH's various institutes and funding ten centers—at Harvard, Columbia and Stanford, among other medical institutions—to promote and guide high-quality research. It is also, through a series of methodology conferences, taking a fresh look at the research enterprise itself. One of the central purposes of these conferences is to explore the relevance and use of other methodologies in addition to the randomized controlled trial (RCT).

Because the RCT has proved enormously useful and because its results are so statistically powerful, it has become the "gold standard" of clinical research, the one by which other kinds of studies tend to be judged. This has had real consequences, since many new approaches have been ignored or dismissed by the medical establishment because their efficacy has not been—or can't be—demonstrated by RCTs. It is also important because the structure of the RCT helps to determine what can be most definitively judged to be effective. RCTs work best for simple interventions with easily definable disease states.

Here the complexity of the individual and the variability among individuals—our uniquenesses—are ignored in favor of statistically averaged outcomes: intervention X lowers blood pressure in 60 percent of patients with hypertension. The RCTs shape research in another way. They are the central element of clinical trials, the complex series of studies that must be undertaken before any new drug can be approved for use by the Food and Drug Administration, a

process that may cost hundreds of millions of dollars.

Though RCTs and clinical trials are enormously useful, they are only one aspect of research. Because the financial incentives are not there to launch these kinds of investigations of substances and devices that cannot be patented—including herbs, vitamins, homeopathic remedies, dietary regimens, and other food supplements—there will inevitably be far fewer and far less elaborate investigations of them. The same is also true of acupuncture, chiropractic, and all of the mind-body therapies like hypnosis and imagery. This imbalance has nothing to do with which approaches are more promising, only with which ones might be most profitable.

It's not a matter of discarding the randomized controlled trial but of respecting and using other methodologies as well. Outcome studies, examinations of clinical practice in its natural setting are, for example, far less expensive and far simpler to perform than RCTs. They are often perfectly adequate to answer questions about what works: Dean Ornish's Lifestyle Heart Trial, in which patients' progress was monitored, was such a study.

The office is also exploring methods that respect the integrity of the systems or techniques that are under study. So for example, if we are looking at the effectiveness of a Chinese medical approach, we might need to assess it according to its ability to affect conditions that are defined and described according to Chinese, not Western, diagnostic categories.

The office is also becoming interested in addressing other kinds of research questions, ones that may help identify factors that are most conducive to healing. What are the unique factors that enable one person to recover—to experience a “spontaneous remission”—from a metastatic cancer to which all others succumb? If, as research shows, placebos produce effective results 30 to 40 or sometimes

70 percent of the time, what can one do to maximize the positive belief on which the placebo response is based—and to minimize the negative expectations that may undermine it? If physician/patient relationships have an effect on outcome in illness, what are the factors that go into producing this effect, and how do we make sure physicians—and patients—make the best use of them?

Finally, we need to widen the concerns of our research, from its too exclusive focus on magic bullets—which one set of experts will design and manufacture and another will fire—to the human being whose illness is being targeted. What we have so far learned about our ability to use hypnosis and biofeedback, visual imagery and prayer, exercise and postural reeducation, attitudinal change and group support, to affect our physical and emotional functioning and well-being, are, I feel, just hints of our true capacity. Research—at the OAM and elsewhere—should not only help us see what we can do to and for others, but help us realize all that we are capable of doing for ourselves and give us the confidence to do it.

#### MEDICAL EDUCATION

The new medicine demands a new kind of medical education, as well as a broader approach to research. This education will be at once more personal, experiential and thoughtful. It's not that what students are learning is destructive or even incorrect, or that progressive deans aren't aware of and moving to address some of its problems, but rather that medical education is limited in its perspective and is less than what it can and should be.

Changes in medical education can begin with changes in its financing and in school admission policies. We should publicly fund the education of all students—not just those who are willing to enter the armed forces—or the few who can and choose to join the National Health Service Corps. In return we should require that all

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*The new kind of medical education will be at once more personal, experiential and thoughtful.*

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graduates devote three years to the chronically underserved in the inner cities and rural areas. This would establish the value we, as a society, place on service to all, and discourage those who see medicine as a vehicle primarily for technical mastery or monetary gain.

It would encourage students who are interested in primary care and eliminate barriers to medical school for those, largely poor, who cannot imagine incurring debts of as much as \$150,000 to \$200,000. It would also eliminate one of the obvious and unpleasant rationalizations that doctors advance to justify the inflated incomes that many of us achieve. Admissions policies should be changed to reflect this perspective, with commitment to service, open-mindedness, life experience, and intellectual curiosity weighed equally with high scores in science classes and on the Medical College Admissions Test.

There also need to be major changes in medical education itself. There is a lot of hard work, but it is often neither intellectually challenging nor stimulating to the imagination. We need to teach our students to examine biomedicine, the experimental methods on which it is based, and the social system in which it is practiced from an historical and a cross-cultural perspective. They ought to know that our medicine is one among many; that healing systems that have been ignored or dismissed as “primitive” have a long and



successful history, can be scientifically investigated and validated, and are more and more widely used by their patients.

We must also remind medical students from the first day that each of us is unique and that all of us are far more than the sum of our diseased organs—that we are whole people living in rich and complex environments. This can happen only if we ground medical education in specific human perspectives and experiences as well as facts and diagrams. A renewed emphasis on the primacy of the physician/patient relationship is essential.

Students need to visit with patients in their homes and at the places where they work, to interview whole families, not just the individual patient. They need to thoughtfully observe the effects of hospitalization and, indeed, all medical treatment on patients' physical and emotional states, to appreciate the negative as well as the positive effects of medical technology (for example, the rise of antibiotic-resistant bacteria and the unnecessary prolongation of life of the demented elderly).

In most aspects of the medical curriculum, we tend to divide knowledge into convenient and somewhat arbitrary categories, disciplines and specialties—biochemistry and bacteriology, as well as internal medicine and preventive medicine, otolaryngology and pulmonology. We need to balance this sharp focus with broader, more integrated perspectives. When students learn gross anatomy, for example, they shouldn't learn only where each muscle originates and inserts but how they work together.

The physiology of stress, which is usually only touched on, is one comprehensive and coherent way of looking at the effects of our environment, our thoughts, and our feelings on our biological being. It also represents a wonderful opportunity for experiential teaching. Instead of monitoring a dog's physiology, students can observe how stress raises their own blood

pressure, alters their own blood chemistry and changes their own moods.

From the first day, we need to balance the necessity for analytic study and expertise with introspection and personal experience, the acquisition of knowledge with the necessity of wisdom. Already, several schools make sure their students know the names and life stories of the cadavers they dissect and hold a ceremony of appreciation for those whose bodies serve our learning. A few ask their students to experience the anxiety and dehumanization that often accompanies medical care: a visit, as a patient, to an overwhelmed ER; a simulated pelvic examination with their legs in stirrups for males; a brief ward admission, complete with unclosable hospital gown. And in some schools, like Harvard, students are already working and learning together in small groups.

These are important beginnings. However, our education needs to evolve beyond isolated glimpses of patients' reality and problem-based learning about patients. All students need to learn to understand and help themselves. If they pay attention to the influence of their own family, class, race and environment, students will be far more likely to be sensitive to the power of these dimensions of their patients' lives. If they are willing to explore their own stresses and attitudes and discover their own ability to deal with them through awareness, relaxation, meditation, exercise and diet, they will find it natural, once they are on wards and in clinics, to teach this approach and these therapeutic modalities to their patients.

If students share their thoughts and feelings with one another, they will realize the power of this process to ease anxiety, break down interpersonal barriers, and create bonds of trust. Later, on wards and in clinics, they will feel more comfortable inviting their patients to do the same with them. If they begin to explore their own need for meaning and purpose—if they address the role of the spiritual in

their lives—they will understand the importance of this dimension to those who are passing through terrifying and life-threatening crises.

Medical students who expand their intellectual horizons to include other systems of healing are likely to be far less dogmatic and more modest in their practice. And students who learn in a deeply personal and mutually respectful way will be less vulnerable to the isolation and self-protectiveness of unhealthy competition. As they continue to explore their own capacity for self-awareness, self-care and mutual help, to open their minds to new approaches, they will be far more likely to value and encourage these possibilities in their patients. If they are treated, and learn to regard one another, with love and respect, they may well come to treat their patients the same way. ❧

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# Mesmerism and Kindred Delusions

by Gerald Weissmann



The Mesmeric approach to mental conditions.

From: Shyrock, R.H. *The Development of Modern Medicine*, 1947



*Sickness, [Mesmer] maintained, resulted from an obstacle to flow of the fluid through the body, which was analogous to a magnet. Individuals could control and reinforce the fluid's action by "mesmerizing" or massaging the body's "poles" and thereby overcoming the obstacle, inducing a "crisis," often in the form of convulsions and restoring health and harmony of man with nature.*

Robert Darnton,  
*Mesmerism and the End of the  
Enlightenment in France*, 1968.



Oliver Wendell Holmes

*Most women today are borderline hysterical. We are loudly hysterical or quietly hysterical. Our despair is acted out externally, or it cuts through our bodies in the form of physical illness... Her psychoimmunologist had told her before we met—and I agree—that her body has merely caught up with her mind.*

Marianne Williamson,  
*A Woman's Worth*, 1993

*No one can study the now familiar history of clairvoyance profitably who has not learned something of the vagaries of hysteria.*

O.W. Holmes,  
*A Mortal Antipathy*, 1878

NO CITY IN HISTORY HAS PROFESSED more ardently the belief that human reason is the sister of medical progress than nineteenth-century Boston, which Oliver Wendell Holmes called "the hub" and Van Wyck Brooks called the city of Oliver Wendell Holmes. Boston was the hub not only of the American Renaissance, but also of a broad social movement in the Western democracies that came to be called meliorism. Meliorism differs from simple altruism by virtue of its belief in progress through reason rather than sentiment. An altruist feeds the beggar; a meliorist feeds the beggar and vaccinates his children. Believing that meliorism is the spirit that unites the age of abolition with the age of DNA, I'd bet that Holmes would have been vastly amused by the notion of "alternative" medicine sit-

ting cheek by jowl with molecular biology at his medical school!

Those who presided over the flowering of New England—Holmes, Lowell, Longfellow, Emerson—would have been pleased by the flowering of DNA, an event foreseen by Emerson:

*I do not know that I should feel threatened or insulted if a chemist should take his protoplasm or mix his hydrogen, oxygen, and carbon, and make an animalcule incontestably swimming and jumping before my eyes. I should only feel that it indicated that the day had arrived when the human race might be trusted with a new degree of power, and its immense responsibility; for these steps [are] only a hint of an advanced frontier supported by an advancing race behind it.*

Ralph Waldo Emerson,  
*Journals*, 1871

His friend and fellow meliorist, Holmes, would have scoffed at the "Homeopathy and Kindred Delusions" (the title of one of Holmes's essays) of our day—the clairvoyants, remote healers, stress-reducers, ayurvedics, herbalists, crystal gazers and psychoimmunologists. Holmes had no great hopes of winning the debate against unreason, invoking what he called the hydrostatic paradox of controversy: "If you had a bent tube, one arm of which was the size of

a pipe-stem and the other big enough to hold the ocean, water would stand at the same height in one as in the other. Thus discussion equalizes fools and wise men in the same way, and the fools know it" (*Autocrat at the Breakfast Table*, 1858). But he might have taken that pipe-stem by its neck, were he told that Jon Kabat-Zinn, the son of one of America's most distinguished immunologists, Elvin Kabat, would profess Mesmer in Massachusetts today:

[Kabat-Zinn:] *Even though the words medicine and meditation sound alike, we don't want to scare people away. So we call it "stress reduction." They will learn to "scan" their bodies, moving consciously through the painful areas until they can "relax into their discomfort." They will learn yoga, arching into a ball, raising their pelvises, stretching their arms over their head, lifting their heads and feet while lying on their stomachs. At first, groans and grunts fill the room...*

Moyers: *What exactly is happening during the body scan?*

Kabat-Zinn: *In the body scan, you lie on the floor, and without moving begin by directing the focus of your attention to the toes of your left foot, then, gradually, up through your leg and over to the other toes, and the other leg, and eventually through the whole body. Afterwards you experience profound well-being. You're in the present moment.*

Bill Moyers,  
"Healing and the Mind," 1993

When James Russell Lowell was offered the editorship of a new literary magazine in 1853, he had made it "a condition precedent" that his friend Oliver Wendell Holmes be the first contributor engaged. Holmes had at the time a reputation chiefly as the author of "Old Ironsides," as a lyceum lecturer, and as Boston's most brilliant conversationalist. But he accepted Lowell's challenge of steady work and published his feuilletons in every issue



TRANSFUSION OF NERVO-VITAL POWER



MESMERIZING WATER.



INTRO-VISION.

of the new journal. He also gave the publication its name. *The Atlantic Monthly* is Holmes's godchild.

We are still in debt to his knack for names. Holmes not only christened Boston "the hub," but suggested the name "anesthesia" to Morton; in his novel *Elsie Venner* he introduced "Brahmin" as the label for Boston's finest class. In addition, he imported the study of medical microscopy from France to the United States, demonstrated the cause of childbed fever and invented a parlor stereopticon. He was, incidentally, a dean of the Harvard Medical School; like the incumbent he was a feisty gamecock of a man dedicated to medical education and reform. He was also an unabashed sanitary crusader, proud to be a member of the skeptical medical community of Boston, which today—as in 1869 when Holmes addressed it—should hold "every point of human belief, every institution in human hands, and every word written in a human dialect, open to free discussion, today, tomorrow, and to the end of time."

His book of essays, *The Autocrat at the Breakfast Table*, made Holmes a household word overnight. Those humorous pieces, unstructured products of a magpie mind, were transcripts of the doctor's thoughts "dipped from the running stream of consciousness"—a phrase made famous by his student, William James.

In his 12 volumes of verse and prose, Holmes raised the flags of wit and reason against homeopaths, Mesmerists, and the politically pious. He also knew that medicine was practiced in a social context:

*The truth is, that medicine, professedly founded on observation, is as sensitive to outside influences, political, religious, philosophical, imaginative, as is the barometer to the changes of atmospheric density. Theoretically it ought to go on its own straightforward inductive path, without regard to changes of government or to fluctuations of public opinion. But [there is] a closer relation between the Medical Sciences and the conditions of Society and the general thought of the time, than would at first be suspected.*

In 1871 Holmes took on the quacks before the graduating class of my medical school, then called Bellevue Hospital Medical College. He began by explaining the difference between the junior and senior members of our profession: the young doctor knows the rules, the older doctor knows the exceptions. He went on to warn the young graduates against the nostrums and "specifics" that passed for therapy in their century, but his chief targets were homeopathy and other foolish practices:

*Some of you will probably be more or less troubled by that parody of medieval*

*theology which finds its dogma in the doctrine of homeopathy, its miracle of transubstantiation in the mystery of its dilutions, its church in the people who have mistaken their century, and its priests in those who have mistaken their calling. You can do little with persons who are disposed to accept these curious medical superstitions. There are those whose minds are satisfied with the million-fold dilution of a scientific proof. No wonder they believe in the efficacy of a similar attenuation of herbs or potions. You have no fulcrum you can rest upon to lift an error out of such minds as these, often highly endowed with knowledge and talent, sometimes with genius, but commonly richer in the imaginative than the observing and reasoning faculties.*

But he reserved his greatest contempt for that catch-all diagnosis of the nineteenth century, spinal irritation. "Some shrewd old doctors," Holmes told the Bellevue students, "have a few phrases always on hand for patients who will insist on knowing the pathology of their complaints. I have known the term 'spinal irritation' to serve well on such occasions."

It had already served well the brothers Henry and William James who acquired the disorder to sit out, as it were, the American Civil War. Their plucky sister Alice spent a lifetime in bed on account of her spinal affliction, that "dorsal trouble in the blood" which William believed to run



in the family. The disorder was based on Marshall Hall's earlier description of the reflex arc in decapitated newts (1837), a reduction of higher mental functions to local electrical circuits. The notion that our spines harbor the secret of health and disease remains at the root, literally, of such curious American practices as osteopathy, chiropractic and Christian Science. It also owes a debt to the "polar" principles of Mesmer.

Mary Baker Glover Patterson Eddy suffered a small epiphany when she hurt her back in 1866. Her injury was an "obscure hurt" of the kind that struck Henry James when he heard of Fort Sumter. She was literally struck by the notion that, since "matter and death are mortal illusions," one could overcome disease by exercise of Mind. There is, in fact, a large area of agreement between this notion and those expressed by Henry James the elder in his relentless tract, *Shadow and Substance*.

What a Bostonian affliction! Poor Mary Baker Eddy was troubled all her life by "spinal inflammation and its train of suffering—gastric and bilious" to the point where her second husband had to carry her downstairs for her wedding ceremony, and back to her invalid bed directly thereafter. Sure enough, with the help of Healing and the Mind, she was soon able to climb all 182 steps of Portland's city hall tower. Eddy and her followers were persuaded that Christian Science and its healers constituted the main line of defense against "malicious animal magnetism," which was the main cause of illness and death. This not unper-  
suasive system of alternative medicine has continued to outlast its ontogeny in spinal irritation and its phylogeny in Mesmer's animal magnetism.

Mesmer's theory and practice have proved nearly as durable as Christian Science and both doctrines lean heavily on the Swedenborgian notion that matter is a subset of Mind. As we've learned from Robert Darnton, there was a disturbing connection between

the rise of Mesmeric belief and the end of the Enlightenment in both Europe and America. On both sides of the water, hard science and sharp thought provoked a backlash of soft science and dull thought. The result was a brew of Mesmeric fluid and Swedenborgian Mind as the language of real science was appropriated by the mock.

Both Franz (or Friedrich) Anton Mesmer (1734-1815), who began as a Viennese physician, and Emanuel Swedenborg (1688-1772), who began as a Swedish metallurgist, slipped easily into the language of eighteenth-century physics; their tomes are filled with universal fluids and fields, forces of repulsion and attraction, terrestrial and animal magnetism. George Bush, no discernible relation of our recent leader, but a very discernible colleague of the elder Henry James—who was himself a pillar of Boston's Swedenborgian community—published in 1847 a book entitled *Mesmer and Swedenborg*. He spelled out for Americans the connection between the Barnum of animal magnetism and the Bailey of cosmologic love.

For Bush, as for James, the relationship between flesh and spirit was elementary, so to speak, it was written in the stars. And the stars, then as now, permitted one to deal with the dark side of the soul, with the lonely self, with existential angst and vastation. "His work gives one the feeling of a sky full of stars," as Lowell said of Thoreau, "astrology as yet, and not astronomy."

Alas, there are today many more astrologers than astronomers in the United States. Americans still can't tell whether it's the real turtle soup or only the mock. Our proliferation of crystal healers, visualizers and herbalists is unmatched since the era of Mesmer.

Mesmer, of course, was only the most fashionable and successful practitioner among that squad of Svengalis that serviced the pre-revolutionary salons of Paris. They argued that medical practice based on anatomy, botany

and chemistry, the medicine of the Enlightenment, was too reductionist because it ignored the spiritual energy that united man with nature. Disease, they believed, resulted from various obstacles to the flow of a magnetic fluid or energetic force in the body. Darnton explains:

*Sitting around the tubs in circles, the patients communicated the fluid to one another by means of a rope looped about them all by linking thumbs and index fingers in order to form a mesmeric "chain," something like an electric circuit...Soft music, played on wind instruments, a pianoforte, or the glass "harmonica" that Mesmer helped to introduce in France sent reinforced waves of fluid deep into [the patient's] soul. Every so often fellow patients collapsed, writhing on the floor, and were carried by Antoine, the mesmerist-valet, into the crisis room; and if his spine still failed to tingle, his hands to tremble, his hypochondria to quiver, Mesmer himself would approach, dressed in lilac taffeta robe, and drill fluid into the patient from his hands, his imperial eye, and his mesmerized wand.*

This report does not differ from an account Elizabeth Blackwell gave us of her visit to a Mesmeric session in the 1840s, nor, for that matter, of those held a generation later. We might say that constancy of this degree is what separates a cult or religion from Western science, which changes so rapidly that it often forgets its place on the page.

In the eighteenth century hard science struck back at Mesmer. Ben Franklin, one of Holmes's heroes, took part in the effort. The monarchy of the ancien regime had heard enough of Mesmer and his disciples and appointed a commission to determine whether Mesmerism "worked" in practice. The group consisted of four prominent doctors from the faculty of medicine, including Guillotin (of the blade), and five members of the Academy of Sciences, including Bailly (of Jupiter), Lavoisier (of oxygen), and



Benjamin Franklin (of the spark).  
Holmes ranked Franklin with Morton:

*We've tried reform —and chloroform —  
and both have turned our brain;  
When France called up the photograph, we  
roused the foe to pain;  
Just so those earlier sages shared the chap-  
let of renown,  
Hers sent a bladder to the clouds, ours  
brought their lightning down.*

The commissioners spent weeks listening to Mesmeric theory and observing how its patients fell into their fits and trances. They underwent continuous mesmerizing themselves, with no effect, and then tested the operation of the fluid outside the excitable atmosphere of the Mesmeric clinic. They found false a report that being mesmerized through a door caused a

woman patient to have a crisis. In Franklin's garden at Passy another "sensitive" patient was led up to each of five trees, one of which had been mesmerized; he fainted at the foot of the wrong one. Four normal cups of water were held before a mesmerized patient at Lavoisier's house; the fourth cup produced convulsions, yet she calmly swallowed the mesmerized contents of a fifth cup, which she believed to be plain water. The commissioners concluded, as Holmes did almost a century later, that the effects of mesmerizing could be attributed to the overheated imaginations of the mesmerists.

William James, the finest writer ever to have come out of the Harvard Medical School, was also taken in by clairvoyance. James's fascination with the occult led him to séances held by

Mrs. William J. Piper, a Boston medium. He wrote to his sister Alice in England asking for a lock of her hair that he might use to conduct help from the spirit world. Sure enough, the hair was sent and advice was obtained. William James was convinced that he had tested the "conductive" power of material objects and confirmed the Swedenborgian correspondence of Mind and matter. But, shortly thereafter, Alice confessed that the hair she had sent was not her own, but that of her nurse, dead four years before. "I thought it a better test of whether the medium is simply a mind reader or not..." Alice James had a less sanguine view of the spirit world than her brother, calling Piper and her ilk "the curious spongy minds that sop it all up and lose all sense of taste and humor!"

Lecture on homeopathy



King, W.H. *History of Homeopathy*, Vol. II, 1905



Unfazed by the episode, William James became a president of the Society for Psychical Research. In *The Will To Believe* (1891), he used all his rhetorical power to defend the activities of his society by pointing out the endurance of the clairvoyant tradition over the ages, "which lay broadcast over the surface of history. No matter where you open its pages, you find things recorded under the name of divinations, inspirations, demonical possessions, apparitions, trances, ecstasies, miraculous healings and productions of disease, and occult powers possessed by peculiar individuals."

He believed at the end of his century what the New Age healers believe at the end of our own: that the "thunderbolt has fallen and that the orthodox belief in reductionist science has not only had its presumptions weakened, but the truth itself...decisively overthrown." Well, not really. Reductionist science in James's own field of medicine has had a decent run since its "overthrow" by Mrs. Piper. The sanitary revolution of Holmes's day was followed by the bacteriologic revolution, and this in turn was succeeded by the biological revolution, which I have called the flowering of DNA.

The results are easy to judge from the only meaningful bottom line, life or death. In 1920—at the end of the bacteriologic revolution and before the discovery of antibiotics—the average life expectancy in the U.S. was 53.6 years for males and 54.6 for females. By 1990 the life expectancy of males had increased to 71.8 and females to 78.8. There is no evidence that between 1920 and 1990 intervention from the spirit world has increased, or that the "truth itself" has been decisively overthrown. The various tribal, religious, and spiritual methods of healing had 5,000 years of head-start before scientific medicine took over; under the care of shamans or priests human life expectancy did not reach 40 until 1840!

Reductionist, scientific medicine may still be helpless in the face of

metastatic cancer, AIDS—or even chronic backache. And the rude machines of medical progress may have defeated, in part, the pastoral role of the family doctor. But that is no reason to settle for magic potions, meditation or "stress reduction." There is no homeopathic, ayurvedic or New Age practice that can prevent pandemics of plague, pin a hip, replace a retina, or prolong the life of a tot with the tetralogy of Fallot. Psycho-immunologists ignore the Swan-Ganz catheter.

When Kurds, Somalis or Bosnians suffer from the revival of traditional tribalism, they do not call for shamans or homeopaths, but the plasma and antibiotics of Médecins sans frontières. The cholera and dysentery epidemics of Rwanda were quelled by salt, potassium and antimicrobials from stores kept by the medical services of the American and French military. When the Ebola virus threatens the world from Zaïre, aid comes not from herbalists or chiropractors, but from the CDC in Atlanta. While the clinics for which I am responsible routinely treat Asian or African women flown to the United States for their medical care, I know no patient who has booked passage to less spiritually challenged sites such as Tibet or the Kalahari desert for the treatment of lupus nephritis.

We are told frequently nowadays that the expensive, autocratic, medical science of our day has substituted its own elite values for those that would better serve one or another of our subcultures. It seems to me that I have heard that song before. From the dock at Nuremberg, Karl Gebhard, MD told a disbelieving Major John J. Monigan of Newark and the Adjutant General Corps of the United States that Hitler and his lieutenants "were all attracted to 'natural medicine'...they had a childish enthusiasm. All sorts of popular drugs that were not approved by the medical profession allegedly because we did not understand them or were too conceited or were

financially interested in the suppression of them, were used experimentally in concentration camps...What the National Socialists wanted to do was to introduce a popular medicine."

Those fashionable folk who gave you Mesmer also gave you the original 18th of Brumaire: a takeover by a nationalist despot in love with the military. Barras, displaced on the 18th by Napoleon asked: "when this moment arrives, and the secretly conducted workings of opinion have reached their terms, where are the human resources which will be able to oppose it?"

Holmes had his moment when he opposed the Mesmeric medical practices of his day in his essay on "Homeopathy and Kindred Delusions":

*As one humble member of [the medical] profession, which for more than two thousand years has devoted itself to the pursuit of the best earthly interests of mankind, always assailed and insulted from without by such as are ignorant of its infinite complexities and labors, always striving in unequal contest with [disease] not merely for itself but for the race and the future, I have lifted my voice against this lifeless delusion, rolling its shapeless bulk into the path of a noble science it is too weak to strike, or to injure.* ❧

*Gerald Weissmann is professor of medicine and director of the Division of Rheumatology at New York University. He has published five books of essays and cultural history; the latest book is Democracy and DNA (Hill and Wang, 1996). This essay is based in part on the second Katherine Swan Ginsburg lecture given at Brigham and Women's Hospital in June 1995 and is dedicated to her family.*







# Wired for God

*by Herbert Benson*



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*Excerpted from Chapter 9 of Timeless Healing by Herbert Benson, MD with Marg Stark. Copyright © 1996 by Herbert Benson, MD. Reprinted by permission of Scribner, an imprint of Simon & Schuster, Inc.*

Much of the time, the scientific quest I've described in this book was driven by the question "Is that all there is?" Scientific medicine always seemed to me, in the patients I encountered and in the research I compiled, to be cordon-ing off parts of the human experience it wanted to affect. In the process, we neglected those aspects that patients, if asked, would probably identify as the essence or meaning of their lives. This was particularly frustrating because my research consistently demonstrated that "the essence of life" was also a wellspring of health.

#### ACTING ON INSTINCT

But as much as my journey was pushed onward by medical research results, it was also driven by instincts. So in this chapter, I will tell you what I instinctively came to believe was timeless and immutable about human physiology and human existence. As informed as my search has been by the traditional measures of science, and as much evidence as I have that my conclusions are scientifically sound, it is at this point in my search that I've reached the end of what I believe science can ultimately prove.

Very early on in my quest for answers, nearly thirty years ago, I had one of the most profound thoughts I've ever had. Like most of my better ideas, it came to me when I was shaving. Mind and body research aside, I've found that nothing rouses the intellect like a sharp blade making tracks across one's face. So it was that I stood in front of a mirror one morning, razor to chin and deep in thought. I was mulling over the facts as I knew them at that point: Scientists had proven the existence of a brain-controlled state of relaxation in animals, the same relaxation response that I would later identify in humans.

I'd seen that Transcendental Meditation practitioners could relax the physiologic mechanisms usually aroused by stress. And although at the time I didn't know the precise

formula for calling this relaxation forward, the steps did not appear to mysterious or difficult to learn. I hypothesized that I would be able to find examples of the use of a repetitive focus in both secular and religious settings, and speculated that the relaxation response was being elicited in everything from Lamaze breathing exercises to religious rituals around the world.

Razor in hand, I continued thinking, harking back to my college paper and the commonalities of religious experience that William James had so beautifully documented. It seemed that as long as people had lived, they had worshipped.

And then it struck me. "This is prayer!" I exclaimed to my half-shaven reflection. Perhaps this tendency of humans to worship and believe was rooted in our physiology, written into our genes, and encoded in our very makeup. Perhaps it is what distinguishes us from other life forms, this innate desire to believe and to practice our beliefs. Perhaps instinctively, human beings had always known that worshipping a higher power was good for them. And indeed, if they were calling forth the relaxation response, medical science could prove it was good for them! I speculated that perhaps humans are, in a profound physical way, "wired for God."

#### WIRED FOR GOD?

The notion that humans might be wired for God seemed to me to be so beyond the realm of traditional scientific study that, as exhilarated as I was about the possibility of its being true, I was also immediately very fearful. Who was I to try to quantify and document faith in God? I could not have found any subject matter more controversial. There was nothing more sacred to people than religious faith. And there was nothing so "unscientific" as faith. Moreover, I felt woefully unprepared to launch a search for the physical

**Herbert Benson '61 began his professional career very much within scientific tradition, first as a cardiology fellow and then as a research fellow with Clifford Barger '43A in his physiology laboratory in the mid-sixties. Mind and body were considered distinctly separate entities then and stress was seen as a mental phenomenon, not a cause of physical illness. But intrigued by an observation now known as "white coat" hypertension—abnormally high blood pressure taken during a physician's**

**exam, now suspected to be due to stress—Benson began a series of experiments.**

**He trained squirrel monkeys to control their own blood pressure through feedback techniques and found that those who were rewarded for increases in blood pressure eventually developed hypertension and kidney changes. That work attracted the attention of young people practicing transcendental meditation, who finally persuaded Benson to study them. He discovered that**

**meditation led to decreases in heart rate, oxygen consumption, rate of breathing and blood pressure.**

**Harvard faculty at the time looked somewhat askance at this work, and Benson almost left Harvard because senior administrators told him he could not accept a private grant to pursue such research. The administrators consulted then-Dean Robert H. Ebert, who decided, "If Harvard can't take an occasional chance on something new, who can? Take the money."**

**Benson then conducted a series of experiments that showed that the "relaxation response"—as he called the result of repeating a sound, a word or a phrase, keeping out intruding thoughts—could be used to reduce hypertension and other medical conditions.**

**He has just published a new book that brings his thinking to a new provocative level.**  
—Editors



manifestations of faith. No class, no textbook, and no grand rounds I could remember had ever attempted to ascertain the physical properties or merits of belief in God.

And yet, while nothing about my medical training prepared me for this, my interactions with patients, their families, and with people in general led me to believe that my hypothesis was sound. The idea that humans are wired for God, that we are custom-made to engage in and exercise beliefs, and that spiritual beliefs are the most powerful of that sort, felt like a truth that had always existed inside me and inside of humankind to which I had suddenly gained conscious access. Like synesthesia, which we talked about earlier in the book, it was as if a physical process had risen to the surface, so that for the first time I was attuned to a primal human motive and a timeless source of physiologic strength and health.

Why do I suspect that belief in God is a primal motive or a survival instinct? Let me summarize the findings of this book that led up to my conclusion. We've examined how influential faith can be when cultivated by an individual, by someone caring for an individual, or by the relationship between the two. We've demonstrated that beliefs have physical repercussions, both positive as in remembered wellness and negative as in the placebo effect. And we've explored how our culture, ethnicity, and daily experiences shape our beliefs and thus our physiology.

Then we delved deep into the workings of the brain, where we witnessed an astonishingly complex system in which patterns of nerve cell activation are created and stored, and in which life experiences mingle with genetics, constantly shifting the cellular pathways that determine all our thoughts, movements, feelings and functions. We learned that people come into the world with hard-wired instincts (among others, fear of heights, or acrophobia, and fear of snakes, ophidiophobia), with the fight-or-flight response, and with the notion of being "whole"—of having arms, legs and a torso. These are genetic predispositions. Our brains became wired with these strategies because they enabled the survival of our ancestors and the continuation of the species. We also unconsciously react to all the things that happen to us and to all our ideas with emotional markers, the logic and origins of which we have yet to understand.

#### THE BURDEN OF MORTALITY

But we haven't talked about the fact that humans are saddled with an intelligence that threatens our very existence. While we are the most intelligent creatures on the planet, outsmarting all other animals, we are also, arguably, the only species that recognizes its own mortality, the inevitability of death. In pondering such questions and facing such facts, ignorance may be bliss because the recognition of death can be such a torment, so depressing and anxiety-producing in humans as to impair our survival.

Because we are the only species that can ask, "What will happen to me after I die?" we must answer that question in a way that promotes our survival.

Cicero is reported to have said, "All philosophy only talks about one thing—death." I have come to believe that in order to counter this fundamental angst, humans are also wired for God. Whether or not God exists, our genes guarantee that we will bear faith and that our bodies will be soothed by believing in some antithesis to mortality and human frailty. So that we will not be incapacitated by the acknowledgment and dread of death, our brains harbor beliefs in a better, nobler meaning to life.

Karen Armstrong writes in *A History of God*, "Jews, Christians, and Muslims have developed remarkably similar ideas of God, which also resemble other contemplations of the Absolute. When people try to find an ultimate meaning and value in human life, their minds seem to go in a certain direction. They have not been coerced to do this; it is something that seems natural to humanity." Belief in God is, indeed, natural to humanity, as natural as are our instincts to flee or fight. As we saw earlier in the book, these predetermined instincts often result in common archetypes being developed, our common fears and tendencies becoming the legends of very different lands and peoples. Similarly, we develop ideas of the almighty, because it appears we are programmed "to go in a certain direction."

After my shaving insight, I spent two years reviewing the religious and secular literature of the world for a common formula that would elicit the relaxation response. I found that in every nation, in every religion, the results were the same. Every culture had religious or secular practices that consisted of two basic steps—a repetitive focus and a passive attitude toward intrusive thoughts. There was transforming power in prayer, no matter what the words, from a Hindu prayer to the Catholic "Hail, Mary, full of grace," from Judaism to Buddhism, Christianity, and Islam. There were multitudes of descriptions of the peaceful state these religious practices elicited. Furthermore, I found many examples of secular approaches that brought forth the physiologic relaxation I'd seen in practitioners of Transcendental Meditation. These were scientifically proven techniques such as Lamaze breathing, autogenic training, and progressive muscle relaxation exercises.

#### LIFE SIGNIFICANCE

Whether or not you believe in God per se, you attach purpose and significance to your life. Of course, individuals choose to manifest this wiring, this preset instruction, in very different ways. But we all derive the most intense strength and solace from seemingly transcendent qualities of life.

Some people look to children for their inspiration because children are untainted and ripe with possibilities. For others, gardens are deeply soothing, a profusion of

color and life, constantly reborn. At their best, music and art can inspire generation after generation of listeners and admirers, as can natural wonders—mountains mingling with clouds, ocean tides never ceasing, and a sun that emerges every morning having been swallowed by the horizon the night before.

Faith in God, however, seems to be particularly influential in healing because “God,” by all definitions of which I am aware, is boundless and limitless. It is part of our nature to believe in an almighty power lest our health be undermined by the ultimate and dreadful fact—that we may succumb to illness and that all of us must die.

I describe “God” with a capital “G” in this book but nevertheless hope readers will understand I am referring to all the deities of the Judeo-Christian, Buddhist, Muslim, and Hindu traditions, to gods and goddesses, as well as to all the spirits worshipped and beloved by humans all over the world and throughout history. In my scientific observations, I have learned that no matter what name you give the Infinite Absolute you worship, no matter what theology you ascribe to, the results of believing in God are the same.

Furthermore, I fear that the language in this chapter and in others in which I’ve discussed the spiritual experience will seem strained and inadequate, no matter how carefully wrought. Humans have always known this frustration, trying to represent that which is mystical and divine in finite, limited terms. And by our very mind-sets—pigeonholing science and religion, mind and matter—most of us are uncomfortable linking God and genes, spirituality and nerve cells.

## TRANSCENDENT FAITH

I have found that faith quiets the mind like no other form of belief, short-circuiting the nonproductive reasoning that so often consumes our thoughts. Our bodies are very good at healing us but all too often we hinder this process, worrying that a cough could be indicative of something far worse because we’ve read or heard so many worst-case scenarios in the media, doubting that we have the strength to overcome it without help because that’s what a host of advertising agencies and pharmaceutical companies have told us. These worries and doubts bring on the fight-or-flight response with all of its stress-related symptoms and diseases and blunt our evolutionary honed healing capacities. Perpetual worries and doubts also make an impression on our nerve cells so that the body too frequently “remembers” illness and health threats in the nocebo effect phenomenon we’ve discussed.

But because faith seems to transcend experience and base reality, it is supremely good at quieting distress and generating hope and expectancy. With hope and expectancy comes remembered wellness—the neurosignature messages of healing that mobilize the body’s resources and reactions. ❧

*Herbert Benson ’61 is associate professor of medicine at Harvard Medical School and president and founder of the Mind/Body Institute at the Deaconess Hospital. He is the author of the Relaxation Response and many other books about the relationship between the body and mind.*



# Rebel with a Cause

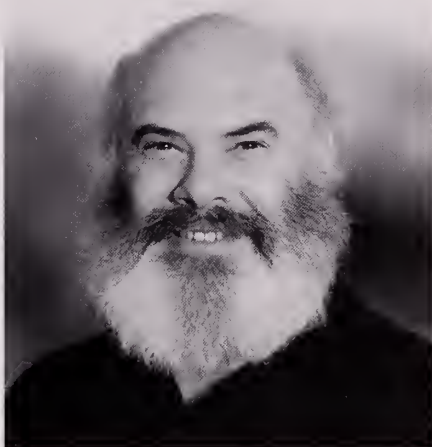
Andrew Weil is proud of his past as a rebel. As a student at Harvard Medical School he acted against the grain of the Northeast medical establishment. "We were a restive class," he comments, readily admitting that he was no small influence: "In the second year [at HMS] I led a student revolt. We petitioned Dean Ebert that we could teach ourselves better than his faculty could. Five students seriously followed through with our proposal. By the end of the year, the five of us who were self-taught passed the National Boards exam."

In keeping with this spirit (and that of his time), Weil chose to research marijuana usage as his senior elective. Despite faculty doubts about this choice, his research led to a series of articles in *Nature*, *Science* and the *New England Journal of Medicine*, among other publications. Weil also used some of this research in writing *The Natural Mind* (Houghton Mifflin, 1972).

Since his years at HMS, Weil has gone on to use his undergraduate training in botany (biology) to collect information on a number of other plants besides marijuana, all in the interest of studying alternative methods of healing the body. Weil's position is that conventional, allopathic medicine has its place alongside homeopathy and other remedies.

"The advantage I have over other people in the field [of alternative medicine] is that I don't have an allegiance to any one system. I think I'm fairly even-handed in my criticism of all of them. I think they all have strong points and weak points, and for me the goal is to sort that out and to take the best elements and ideas from all of these systems and put them together in new combinations."

Weil is far from pessimistic about the enormity of this task. He is optimistic about both his own progress over the past 20 years and society's acceptance of alternative medicine. "For a while I was in a fairly lonely position. But I find it interesting and gratifying to see the extent of change of public opinion in this area and the amount of credible support and attention."



Weil is currently director of the Program in Integrative Medicine at the University of Arizona College of Medicine, where an old schoolmate of his, Joseph Alpert '69 is chair of the Department of Medicine. Much of his work at the University of Arizona involves the development of a two-year fellowship program in integrative medicine for physicians who have completed residencies in family practice and internal medicine. In addition to the usual mix of teaching, clinical work and research, these fellows will be schooled in the philosophy of science, the history of medicine and mind-body interaction. Fellows will be required to master two different therapies, ranging from osteopathic manipulation and acupuncture to homeopathy.

Weil is also the founder of the Center for Integrative Medicine, in Tucson, Arizona and the author of six books, the most recent being *Natural Health*, *Natural Medicine* (Houghton Mifflin, rev. 1995) and *Spontaneous Healing* (Alfred A. Knopf, 1995).

Weil's ideas about physician training and temperament are as unconventional as the program he offers University of Arizona students. "The premise I work from is that the body can heal itself, if given the chance. I think that if doctors are going to facilitate healing, we have to start by selecting people who have aptitudes for it." Weil doesn't believe that high scores on standardized tests in any way indicate a qualification to foster healing. "I think that for doctors to be effective teachers of healthy living they have to be able to model health for patients, and I think that

medical training, as it's now set up, actively thwarts the development of healthy lifestyles."

Weil cited his days on a medical rotation at the Peter Bent Brigham as a perfect example: "If you missed a meal at the cafeteria, there was a little room with a big plastic tub of saltine crackers, a tub of peanut butter and jelly, and a vending machine with candy and soda."

Weil lives in a secluded and plant-filled desert home outside Tucson, Arizona. In his latest book, *Spontaneous Healing*, he strongly espouses vegetarian diets and breathing exercises for relaxation. "I think the most effective way to teach is by modeling, and therefore the process of becoming a doctor should include training in and evaluation of the acquisition of healthy habits of living." Weil himself walks or bicycles almost every day and eats a vegetarian diet.

It's the simplicity, accessibility and, one might even say, traditional qualities of his ideas that have made his books so appealing to lay readers. *Spontaneous Healing* has been on the best seller list over six months in hardcover, and the paperback is currently on the best seller list as well.

In describing the practice of medicine Weil emphasizes the open-ended aspect of this profession: "I think that it's important for physicians to be comfortable with mystery. I think that medicine is not a science, it's an art. It uses scientific information produced by scientific research, but the manner of interacting with patients and presenting treatments is an art form. We can never completely understand why people do or don't get better."

Sarah Jane Nelson

# Native Healing

*by Scott H. Nelson,  
Mary Ann O'Neal and  
Abe Plummer*



A Navajo healing ritual



THE THREE OF US SAT ON THE ground on thick blankets in a Navajo hogan. It was 9:00 p.m. and in the low light of the wood fire, we watched a medicine man as he sang prayers and instructed his patient, a Navajo woman, probably in her mid 30s, who suffered from intense headaches. Dressed in her

finest Navajo clothes and jewelry, the woman sat silently, her back to the wall, facing a five-foot sand painting of a corn stalk. The hogan was a one-room, log and adobe structure with six sides and a single east-facing entrance. It was filled with parents, grandparents, uncles, aunts, children and trusted friends who came to support the patient and the healing process. The family included us because we were known indirectly as people who could be trusted and who would

contribute positive support to the healing ceremony.

The medicine man, a stocky man in his 60s, dressed simply in traditional Navajo clothing, conducted the ceremony slowly and carefully, following the multiple steps of singing, chanting, praying, blessing and talking to the patient, using corn pollen, tobacco and items from his medicine bundle in ways that had been passed down from generations. Finally, the patient was seated on the sand painting to convey to her its symbolic power and healing properties. Then the sand painting was destroyed and the patient was bathed discreetly by her family behind a curtain. It was 5:30 AM.



photo by Stuart Darsch

Through the next day, the patient and participants rested, slept and tended to chores to prepare for one more night of singings. By the end of the ceremonies, the patient's headaches were gone, and four months later they had not recurred.

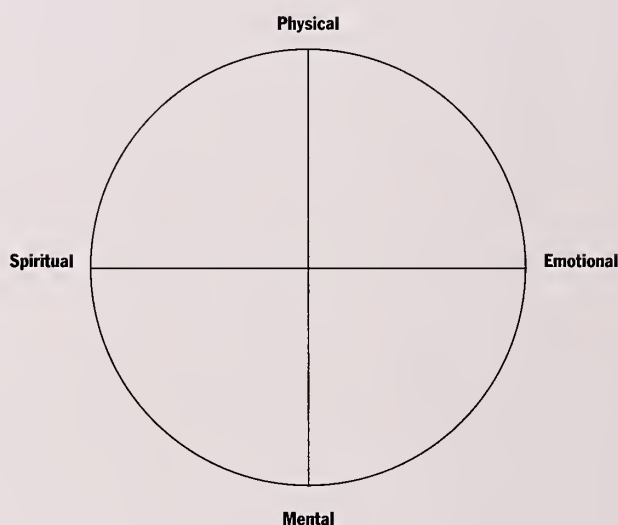
For almost a year the physicians and other health professionals at the Indian Health Service (IHS) Hospital had treated the patient's headaches without success, despite complete batteries of diagnostic tests, specialty consultations and various attempts at treatment. Finally, the woman and her family consulted one of the several types of Navajo diagnosticians, a charcoal gazer, who determined that the headaches were the result of her having dreamed about speaking with a dead relative. The diagnostician and the family's chosen medicine man then discussed the diagnosis, and the medicine man determined the appropriate healing ceremony.

Traditional medicine is actively practiced by an increasing number of the more than 500 American Indian and Alaska Native (AI/AN) tribes in the United States; it is increasingly emphasized as many tribes vigorously rekindle their traditional languages, activities and culture. Traditional healing approaches include ceremonies, feasts, sweats, vision quests, talking circles, prayers, singing and herbal remedies. The form and substance of the healing varies according to the different cultures of the tribes involved.

While the methods of traditional healing are unfamiliar and enigmatic to many Western-trained physicians, they are frequently used and highly effective. Even more important, native healing practices are based on principles that physicians are taught in medical school, albeit superficially, such as "treating the whole person" and

providing treatment "in ways that the patient will accept and understand." The authors have found that understanding some of these principles has helped us to become more effective in our own practices of psychiatry and social work with Indian patients and their families.

A good way to start understanding any traditional healing is to learn about the belief and value structure of the individual in the context of his family, community and culture. For example, the world view of the Navajo



is quite different in many ways from that of the dominant society. Navajos believe that all things are related rather than separate; that natural things should be protected and respected, not conquered and despoiled; that material wealth is for giving and sharing rather than acquiring. Illness is seen as the lack of balance and harmony among the physical, emotional, mental and spiritual aspects of the self. Medical or psychiatric problems are not seen to occur solely from psychological or physical origins within one's knowledge or self-control, but may have spiritual or supernatural causes from "witches" or "ghosts," or be due to an unconscious

violation of a traditional taboo.

The medicine wheel (see illustration) is a useful construct for understanding how many AI/AN cultures view health and illness. The wheel consists of a circle that is intersected by four spokes created by two intersecting lines. The four points on the circle represent natural phenomena that occur in groups of four—for example, the directions and the seasons. In AI/AN cultures, the points also represent the physical, mental, emotional and spiritual aspects of the self.

The view of the Navajo (and many other indigenous cultures) is that these aspects of the self must be in proper balance and harmony for health to be present. Conversely, illness (disease) exists when they are out of balance. The purpose of the various methods of traditional healing thus is to restore the previously existing balance of the self's components.

Perhaps the unique and most important contribution of the native concept of health is the emphasis on the spirit. The concept of spirit in native cultures includes one's religious beliefs and relationship to a creator. It often also includes the degree of harmony with and acceptance of certain other cultural values: one's relationships with extended family, the protection and reverence for the environment (including other animals and plants), and the emphasis on sharing and communality rather than acquisition of goods and individualism.

Many American Indian healing systems, including the Navajo, emphasize what can be done to remain healthy and in balance. In Western medical practice, we are used to thinking along more unidimensional lines, focusing on the physical causes of illness. Some of us may also consider emotional and social factors affecting the acceptance



or course of treatment. It is more unusual for us to consider such factors as the cultural history, values and beliefs of patients, their views of the world and their spiritual needs. This is beginning to change; for example, the new fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM IV) of the American Psychiatric Association for the first time includes an outline for cultural formulation and a glossary of culture-bound syndromes.

The two million AI/ANs are the fastest growing ethnic minority in the United States. Over half live in urban areas, and about half are under age 18. About 160 different native languages continue to be spoken by the more than 500 tribes. Tribes range in size from over 200,000 members (Navajo and Oklahoma Cherokee) to small bands of fewer than 100. While similarities exist, tribes are very diverse in their language, customs and geographic locations.

Indian individuals and their communities differ in the degree of assimilation into the dominant society. Not all Indian people believe in traditional medicine and its benefits; some identify largely or wholly with Western values, including the practice of modern technological medicine. Many of these tribes have lost their own language and traditional practices altogether. The Navajo and Pueblo tribes of the Southwest, on the other hand, tend to be highly traditional, and have largely maintained their language, ceremonies and discrete land boundaries.

Other tribes are in transition, focusing on revitalizing their cultural traditions and ceremonies and reviving their languages, while at the same time responding to the pressures and expectations of the dominant society. Achieving an appropriate balance is challenging and often stressful in these transitional communities, particularly for native youth. Yet many Indian people find the integration of Western and traditional approaches to be rewarding and to provide

alternative ways of dealing with life issues and stresses.

To treat Indian patients, it is important for a Western physician to understand the historical context of their lives. The sordid treatment of native peoples in the United States, with expropriation of lands and forced loss of language and culture, have eroded the self esteem of generations. In many native communities today, depression, alcoholism and other dysfunction are the persisting legacy. Fortunately, the revitalization of culture seems to be an effective antidote to these manifestations of trauma and grief.

Our view at IHS is that both Western and traditional healing are valid and effective. In fact, we believe that not to refer an Indian patient to a native practitioner is irresponsible if the patient believes in such healing and has not considered it, and if competent native healers are available. Interestingly, issues related to quality of care and cost-effectiveness are now being raised, even with traditional healers. Should insurance or IHS pay for the work of diagnosticians, herbalists and medicine men? Traditionally, payment has been considered the responsibility of the family, but some patients have been reluctant to seek out traditional healing because of their inability to pay.

Similarly, what criteria can or should be used to evaluate quality of care provided by native practitioners? Indian communities are increasingly concerned about "healers" who are not trained by recognized effective traditional mentors. Accepted standards of care for traditional healing are now being documented through organized efforts of native providers.

Those of us who are unaccustomed to considering the validity and use of traditional healing can take time to talk with patients about their cultural beliefs in an accepting way, particularly as their beliefs relate to health and illness. We should remember that Western medicine is not the only

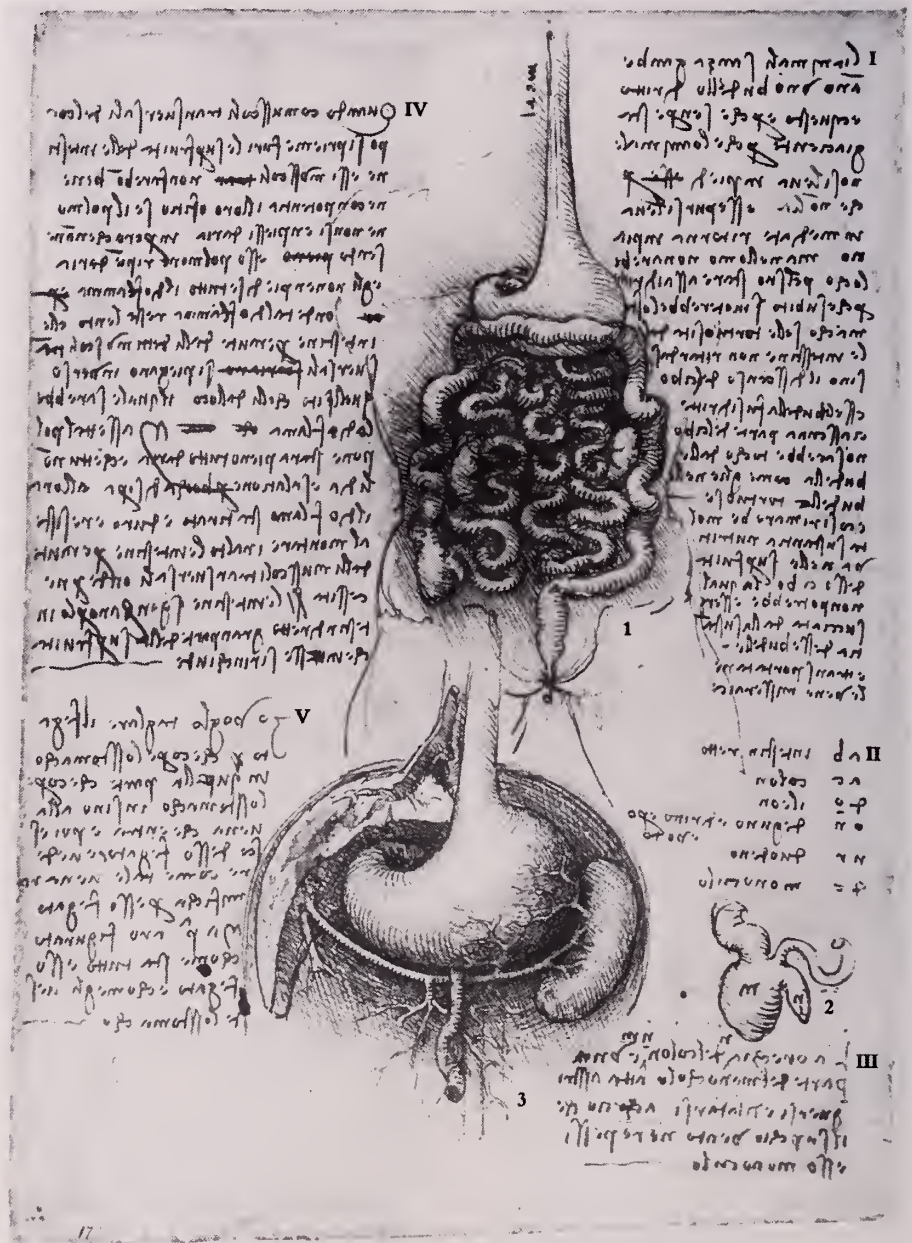
effective way to heal some afflictions. Indigenous peoples often believe that treatment must be holistic and positive, and belief in the method of healing and in the healer is often the most important factor to successful outcomes. Consider suggesting to patients from traditional cultures that they pursue traditional healing, if it seems appropriate.

The traditional healing of American Indians and Alaska Natives has been applied for centuries longer than Western medicine in its current form. It can be used as an effective alternative when Western methods fail or fall short. Traditional medicine succeeds in large part because its language, metaphors and symbols are meaningful and because patients believe in its methods and trust the healer as competent and caring. The cultural beliefs of indigenous peoples can enrich our knowledge and experience, and can help all of us in our constant mission to improve the care of our patients. ❧

*Scott H. Nelson '66 is chief of mental health programs, Mary Ann O'Neal, ACSW, is chief of social services and Abe Plummer, LICSW, is Navajo area mental health and social service branch chief for the Indian Health Service. The views expressed in this article do not necessarily represent those of the Navajo Nation or the Indian Health Service.*

# Who Did the First Appendectomy?

by S. Halcuit Moore Jr.



From a corpus of anatomical studies by Leonardo da Vinci, never published in his lifetime. Johnson Reprint Co Ltd., Harcourt Brace Jovanovich, 1979.





Alfred Worcester

MY SEARCH FOR THE ANSWER TO THIS question began in March 1933. We were having dinner in Vanderbilt Hall and talking about milestones in the history of medicine. A fourth-year student, Don Gates from Gray, Maine, spoke out: "I *know* the doctor who did the first appendectomy."

There was silence for a moment, and then I commented, "Surely the person who did the first appendectomy must have died a long time ago." Don was quick to reply, "Then why don't we drive over to Cambridge and have Dr. Alfred Worcester tell us about the operation he did in 1886?"

Three of us made the trip to the Student Health Center located in Wadsworth House in Harvard Yard. We found that Worcester was delighted to tell us about the nine-year-old girl who had been sent home from the Massachusetts General Hospital so she could die. Her parents had learned that Worcester was recommending surgery for patients with this same problem, and they had arranged for him to see her. He had explained the great risk involved, and after considering the matter, they had asked him to proceed with surgery, which he did on August 21, 1886. The 31-year-old Worcester was assisted by his senior associate, Edward Rowland Cutler, who had graduated from Harvard Medical School in 1863, when Alfred Worcester was eight.

After the abscess cavity was drained, Worcester removed the appendix and the child made a satisfactory recovery.

I asked, "Dr. Worcester, was that the very first appendectomy ever performed?" The other students were putting questions to him so rapidly that my question never got an answer. On the way back to Vanderbilt Hall I decided I would go to the library and get the complete facts, but it was years later before I would make a serious investigation.

My curiosity was rekindled when I read in the *Dallas Morning News* on January 4, 1990 that on this date in 1885 the first appendectomy was performed by William West Grant at Davenport, Iowa. I wrote to the local medical society in Davenport for more information. They sent me a full report of the operation, which was not truly an appendectomy, but was an attempt to close a fistula that had persisted after an appendiceal abscess had drained.

This operation was not publicized until 20 years later when a feature article appeared in the local Davenport newspaper, the *Democrat*. It was written by the doctor who had administered the anesthetic. They made it a cause for great celebration, showing a bold headline THE GREAT APPENDECTOMY, leaving the impression that it was the first appendectomy ever done. Grant never claimed that he had done

the first appendectomy. He did four different operations on this patient before he finally succeeded in curing her problem in January of 1892.

After this wild goose chase, I went to the medical library and read Ralph H. Major's *Classic Descriptions of Disease* and Howard A. Kelly's *Appendicitis and Other Diseases of the Vermiform Appendix*. I found various contradictions and some confusion as to whom the credit should be given. Much of this was clarified by the concise account given by G. Rainey Williams of Oklahoma City in his presidential address before the Southern Surgical Association and published in *Annals of Surgery* in May 1983. The confusion largely stems from the fact that in the years before Reginald Fitz gave his historic paper in 1886, explaining what appendicitis is all about, much of the discussion dealt with such questions as "When is the best time to drain the appendiceal abscess?"

My search of the medical literature soon revealed that the first recorded appendectomy was performed in London in 1735 by Claudius Amyand. The appendectomy was incidental to the repair of a large inguinal hernia which had distended the scrotum of an 11-year-old boy. In the middle of the operating field was the appendix with a rusty pin protruding from the tip. After removal of the appendix, the hernia repair was completed and the boy made a satisfactory recovery.

A landmark case was the appendectomy done by Abraham Groves, who operated on a 12-year-old boy on a kitchen table in a farmhouse near Fergus, Ontario in 1883. Some historians claim that this was the first example of a case in which inflammation of the appendix was diagnosed before surgery, with successful removal of the diseased appendix before peritonitis or abscess had developed.

Another noteworthy case was the appendectomy performed by Richard John Hall on May 8, 1886. According to two biographers, Howard A. Kelly and George A. Higgins, this was the first successful operation for acute



Reginald Fitz



appendicitis and peritonitis performed in the United States. Others say this is not correct, because the appendix was removed as an incidental part of the correction of a strangulated hernia in a patient with peritonitis. The appendix was coiled on itself in such a way that it appeared to be a normal testicle, but on closer inspection, Hall found a perforation at the tip of the inflamed appendix and removed it.

Hall and his coworker William S. Halstead deserve special recognition as pioneers in surgery. They worked together at the Roosevelt Hospital in New York, where they did experiments on the use of cocaine as a local anesthetic and both became addicted. Richard Hall moved to Santa Barbara, California as part of his rehabilitation program, and succeeded in overcoming his addiction. It is ironic that he later developed appendicitis and called for his friend Beverly McMonagle to travel from San Francisco to operate on him. There was no surgeon in the Santa Barbara area capable of doing this type of surgery. McMonagle did operate on him, but too late, and Hall died. The autopsy showed that he had died from a ruptured appendix and peritonitis.

How much did Alfred Worcester do to change the accepted practice of waiting for an appendiceal abscess to form before surgical interference? I believe he greatly influenced physicians to wake up to the life-saving advantages of early operation. The reluctance of the medical profession to accept a new idea is difficult for us to comprehend today, but it has been repeatedly demonstrated in the history of medicine.

In the year 1827 Francois Melier reported six cases of gangrene of the appendix found at autopsy and argued for surgical removal of the appendix. But his advice was largely ignored due to the lack of support from the arrogant Baron Guillaume Dupuytren, the leading surgeon of Paris at that time. It is a tragedy that the world had to wait another 59 years for Reginald Fitz

to make the same plea. Worcester's first appendectomy was done in August 1886, several weeks before the October appearance of Fitz's article.

The forceful and sometimes dramatic way Fitz argued for early surgery at meetings of the local medical societies and the publication of these convictions in the most respected medical journal in his region, the *Boston Medical and Surgical Journal* (which became the *New England Journal of Medicine* in 1928), must have persuaded many doctors to operate early in such cases, thus saving many lives. His vehement insistence on early surgery drew considerable criticism from many of his fellow practitioners. He describes this in a letter to the editor published in the *New England Journal of Medicine* on April 14, 1938:

*"It was a long time before we Waltham men had the support of our professional brethren. Instead, we encountered their bitter opposition. In various records of medical meetings during the next few years reports may be found of discussions of Waltham's heresy that is, our departure from what was then held to be correct procedure. At one of the meetings of the Suffolk District Medical Society I was hammered unmercifully. The meeting had been called for the discussion of the treatment of appendicitis. On the blackboard were written three questions to which the discussion should be confined.*

*First: What should be the medical treatment of appendicitis?*

*Second: If surgery is employed, when would it supersede medical treatment?*

*Third: If surgery is employed, where should the incision be made?*

*When I was asked to speak I said that there is no medical treatment for appendicitis, that the only proper treatment is surgical from the onset of the illness, and finally that the incision should be over the seat of the trouble. I then exhibited eight diseased appendices which we Waltham men had removed from our patients. I told them that seven of the patients had recovered and the eighth specimen had been taken from a dying man who begged for*

*the operation even after I told him there was but one chance in a thousand of his survival. Then the storm broke. I was asked by an irate surgeon how I dared violate all surgical principles. I told him that it was because I was a coward and did not dare not to operate."*

It is tragic to think about the large number of patients who died from appendicitis before it became the accepted procedure to operate on such patients promptly. One might think that the several examples of successful surgical removal of the diseased appendix in 1886, and the publication of Fitz's convincing article in October of that year would have been sufficient to persuade all doctors to recommend early surgery for these patients. But there was a great deal of inertia and reluctance on the part of the conservative practitioners. It was outspoken men like Alfred Worcester who hastened the day when early surgery was the accepted treatment for patients with appendicitis.

I believe that for the people of London THE GREAT APPENDECTOMY was performed in 1735 by Claudius Amyand; for those in the area of Fergus, Ontario, it was done in 1883 by Abraham Groves; for the people of Davenport, Iowa, it was William West Grant on January 4, 1885. In New England, however, it was Alfred Worcester who performed THE GREAT APPENDECTOMY on August 21, 1886.



*S. Halcuit Moore Jr. '35 practiced general pediatrics in Dallas until he retired ten years ago. Now his days are spent enjoying a variety of things, including working out at the Baylor Fitness Center, reading biographical novels (Irving Stone's are special favorites) and occasionally writing a book review or other article to present to his discussion club, which meets every month.*





